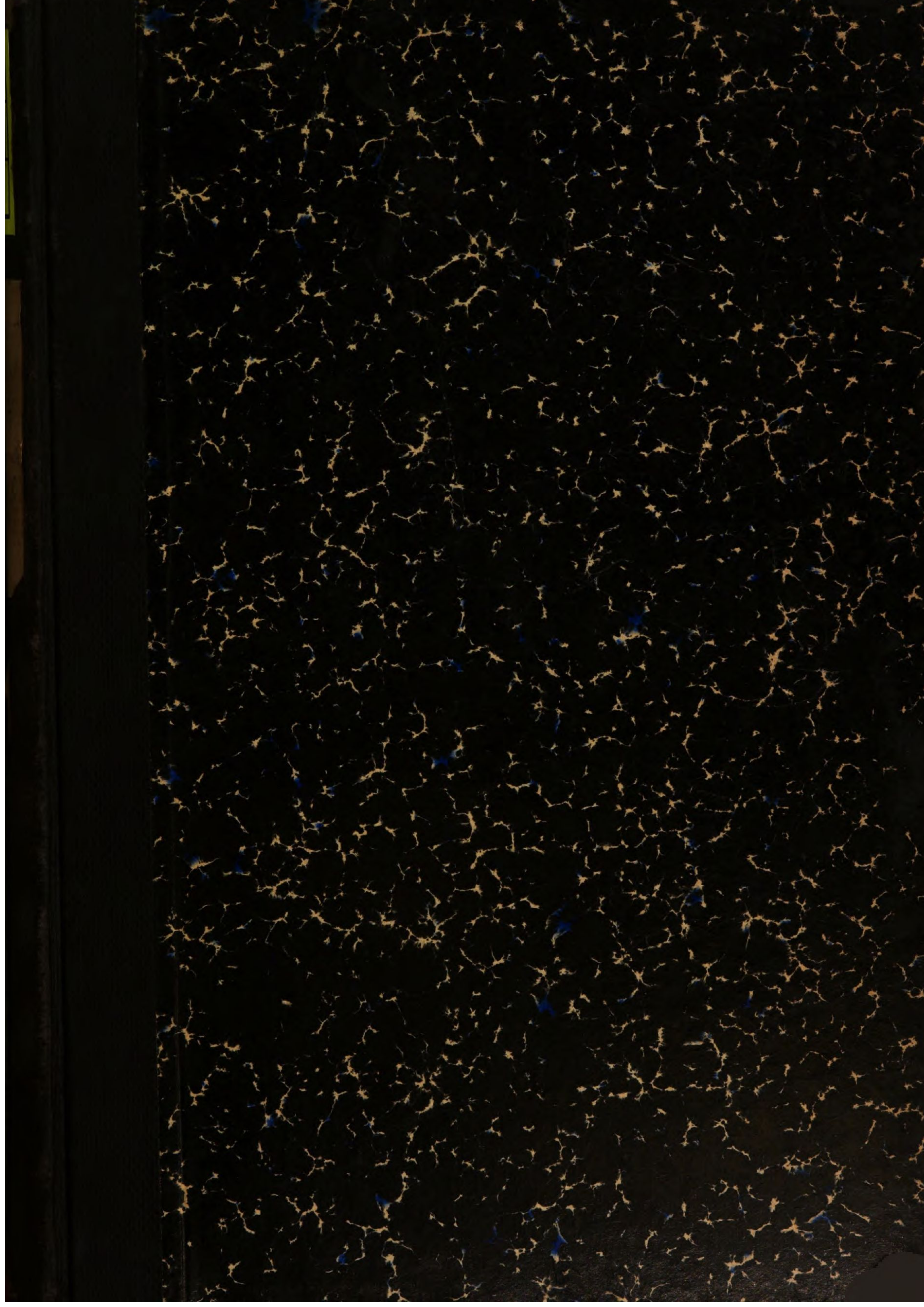




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CINCINNATI



Industrial Exposition,

1870.

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81.



ION BUILDING,

EXPRESSLY FOR THE EXPOSITION,
 ABOVE CUT.

feet.
 feet.

CLEAR HEIGHTH FROM CENTER OF MAIN FLOOR.....	67 feet.
CLEAR HEIGHTH OF GALLERY ABOVE MAIN FLOOR	20 feet.
CLEAR HEIGHTH FROM GALLERY FLOOR.....	20 feet.

as contained in the World's Fair building, held in New York in 1853.

REPORT
OF THE
GENERAL COMMITTEE

OF THE
CINCINNATI

INDUSTRIAL EXPOSITION,

HELD IN CINCINNATI,

UNDER THE AUSPICES OF THE

OHIO MECHANICS' INSTITUTE, BOARD OF TRADE,
AND CHAMBER OF COMMERCE,

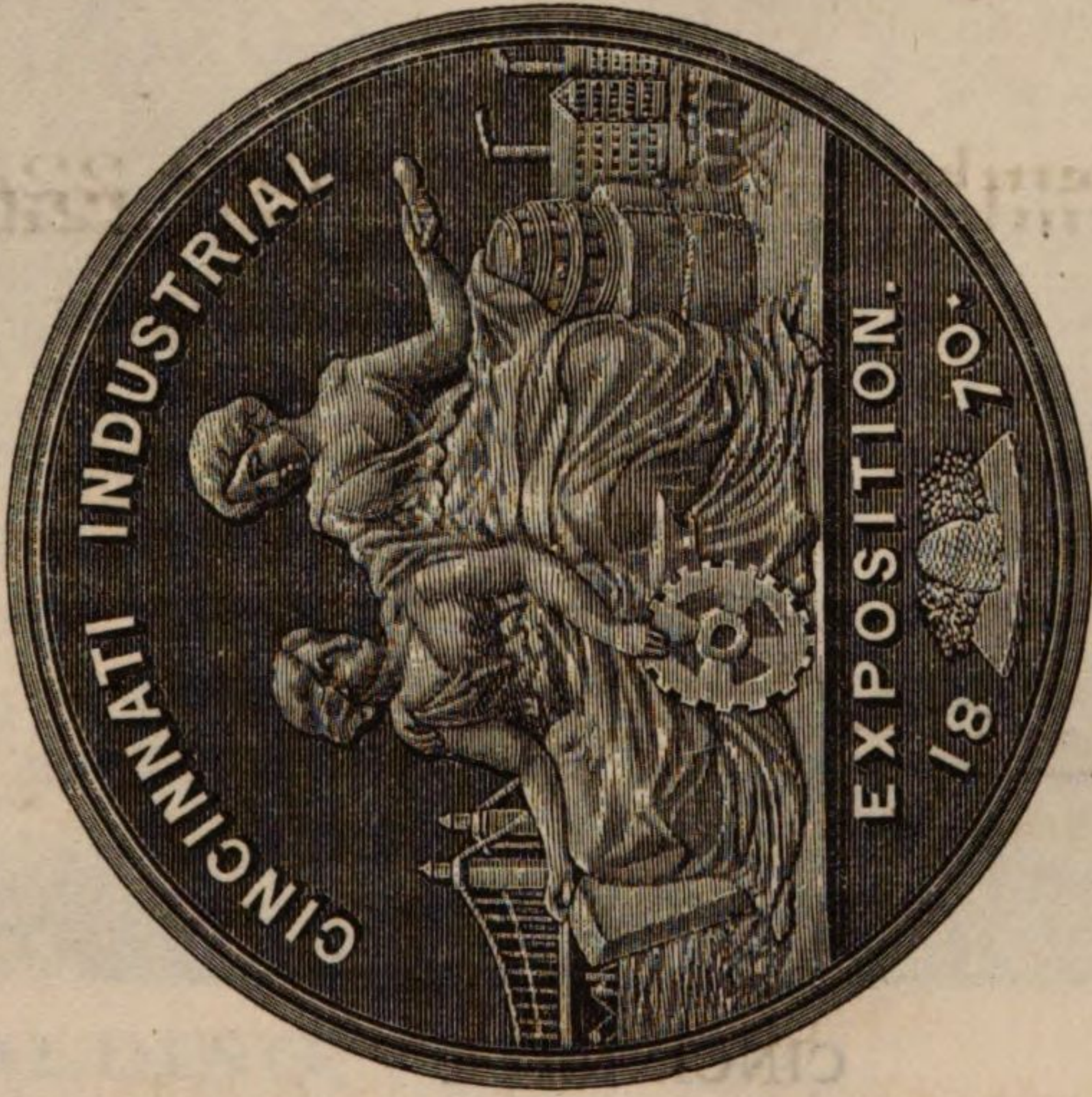
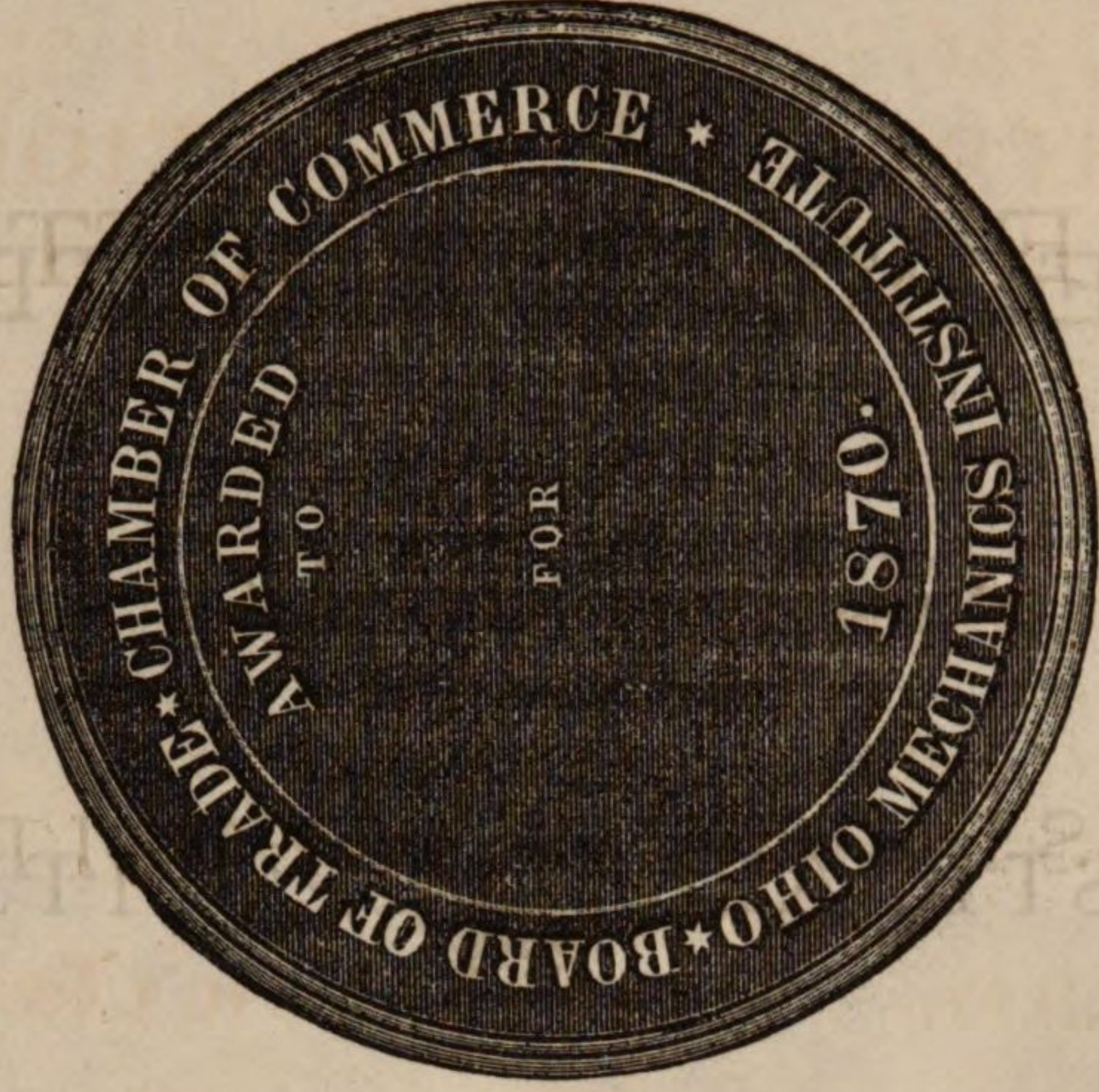
FROM

September 21st to October 22d,

1870.

CINCINNATI:

PUBLISHED BY THE GENERAL COMMITTEE.



WILSTACH, BALDWIN & CO., STATIONERS,
141 and 143 Race Street.

CINCINNATI
INDUSTRIAL EXPOSITION,
1870.

PRESIDENT,

CHAS. F. WILSTACH.

VICE-PRESIDENTS,

JOSIAH KIRBY,

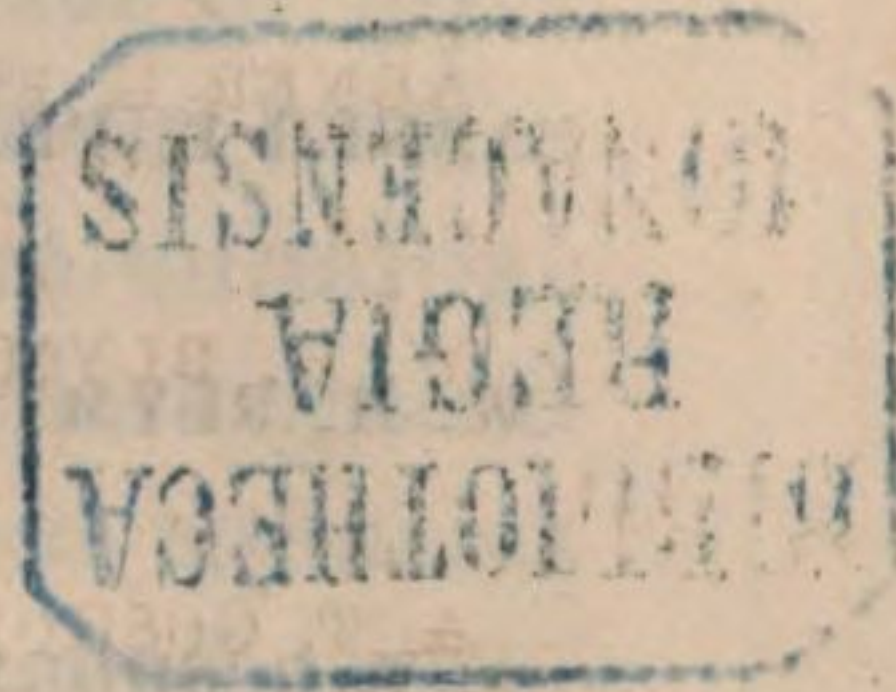
JAS. H. LAWS.

SECRETARY,

ABNER L. FRAZER.

TREASURER,

C. H. GOULD.



GENERAL COMMITTEE.

OHIO MECHANICS' INSTITUTE.

CHAS. F. WILSTACH,

JAMES DALE,

HUGH McCOLLUM,

THOMAS GILPIN,

P. P. LANE.

BOARD OF TRADE.

A. T. GOSHORN,

JOS. KINSEY,

JOSIAH KIRBY,

W. H. BLYMYER,

D. B. PIERSON.

CHAMBER OF COMMERCE.

ABNER L. FRAZER,

JAS. H. LAWS,

S. F. COVINGTON,

C. H. GOULD,

JACOB ELSAS.

CINCINNATI
INDUSTRIAL EXPOSITION,

1870.

STANDING COMMITTEES.

FINANCE.

H. A. V. POST, C. H. GOULD, S. S. DAVIS.
O. H. GEFFROY, A. P. C. BONTE.

BUILDING.

H. McCOLLUM, D. B. PIERSON, THOS. GILPIN.

CLASSIFICATION.

JOSIAH KIRBY, L. BARNEY, M. LOTH.

PRINTING AND ADVERTISING.

ABNER L. FRAZER, JOHN B. HEICH, H. H. TATEM.

SPACE.

W. H. BLYMYER, G. W. McALPIN, L. R. HULL.

LADIES' DEPARTMENT.

A. T. GOSHORN, O. H. GEFFROY, W. P. NOBLE.

RULES AND REGULATIONS.

C. H. GOULD, W. E. LONDON, WM. CLOUGH.

AMUSEMENTS.

H. McCOLLUM, THOS. GIBSON, JOHN B. HEICH.

AWARDS AND DIPLOMAS.

THOMAS GILPIN, JOHN B. HEICH, H. McCOLLUM.

FINE ARTS.

A. T. GOSHORN, WM. WISWELL, W. P. NOBLE.

JUDGES.

JAMES DALE, JOHN B. HEICH, S. HANNAFORD.

MACHINERY AND MOTIVE POWER.

P. P. LANE, HENRY PEARCE, E. R. LOUGHEAD.

TEXTILE FABRICS.

JAS. H. LAWS, JACOB ELSAS, C. H. GOULD.

PUBLIC CONVEYANCE AND TRANSPORTATION.

S. F. COVINGTON, H. W. BROWN, E. F. FULLER.
JAS. S. WISE, L. DEVINNEY, J. H. RHODES.
SAMUEL STEVENSON, E. P. WILSON, W. E. LUDLOW.

Such an epoch in the manufactures and commerce of Cincinnati and the West was the Cincinnati Industrial Exposition of 1870. It was, doubtless, one of the most important business and commercial events that has ever transpired in the West. Perhaps, in some respects, it was the most important that has occurred in this country. To the West, and

CINCINNATI INDUSTRIAL EXPOSITION.

1870.

HISTORY.

THE history of nations as of men is not, as a rule, one of steady and smooth ascent to distinction. In the lives of governments, that have won renown among the nations of the earth, there are epochs which, whether they be the culmination of influences long co-operating to produce at last grand results, or the seizure by strong hands of independent agencies that need but to be found and directed by a single will to accomplish high purposes, stand out boldly as great landmarks on the highway of time. They are the great periods in the march of nations, upon which the eyes of other generations are wont to rest though they may be unmindful of the multitude of agents that, coral-like, have been obscurely laboring to attain these ends.

So commerce and manufactures have their epochs—periods when long operating influences appear to converge upon given points, illuminating them with a splendor which ever after becomes a distinctive feature of the time. These may not be the sudden creation of agencies, but rather the concentration of forces that have long been operating; that for a generation have been taking shape and preparing themselves for some sudden demonstration of power, like the marshaling of a great people who for years had been disciplining its soldiers and preparing them for sudden and brilliant achievements in the field.

Such an epoch in the manufactures and commerce of Cincinnati and the West was the Cincinnati Industrial Exposition of 1870. It was, doubtless, one of the most important business and commercial events that has ever transpired in the West. Perhaps, in some respects, it was the most important that has occurred in this country. To the West, and particularly to the great central city of this section, it was a new era in the history of productive industry. Not that our mechanics and manufacturers had not been industriously employed before, for Cincinnati has long been recognized as the seat of important manufactures, but that this was a kind of illumination—an opening of the eyes of all classes fully to the mechanical and inventive genius of our people, and to the great variety of manufactures we were producing for the comfort of man. It was a retrospect of the ground already passed over, with its obstacles surmounted, its achievements won, and its promise of future conquest in the material world, and increased prosperity in the field of commerce fairly presented to the beholder. The traveler who toils up the mountain side seldom enjoys the splendor of the landscape so long as he laboriously progresses in his journey. When, however, he stops to rest, and looks out upon the varied panorama, the beauties that are suddenly unfolded in great variety, are well calculated to surprise and charm him, for it is the revelation of objects, the full extent and force of which he has not been permitted to enjoy while laboring for their attainment. So has it been with the infant manufacturers of the West in their contest for power. In their labor to secure permanent position, and their struggle for the peaceable occupation of territory which rightfully belonged to them, they were quite too busy, and as fully unprepared, to see what ground had been fought over and to weigh the character of their achievements. It was not until they consented to call a halt, and take a survey of the field over which they had been pushing on to conquest, that they were able to see what had been accomplished. Such a halt was the Cincinnati Exposition of Manufactures, Products, and Arts of 1870.

It is no wonder that it surprised the toilers themselves; it is still less a surprise that it was a revelation which astounded

those who in all these things sustained to them a less intimate relation. The extent, the variety, the perfection, the finish, the tastefulness, the beauty of the articles displayed, which were very largely the result of Cincinnati's inventive skill and enterprise, were well calculated to awaken astonishment in all, and to stir the soul for larger acquisitions in the domain of skill and labor.

THE EARLY HISTORY OF THE EXPOSITION.

Exhibitions of manufactures and arts on a smaller scale had been successfully held years before by the Ohio Mechanics' Institute. The citizens of Cincinnati remember, with much pleasure and not a little pride, the interesting displays made by this Association, commencing as early as 1838 and continuing to the commencement of the Rebellion. But these were not permitted to survive the mighty throes of a nation striving to maintain its existence. The public mind was too much engrossed in contemplating the tremendous issues involved in the war to encourage a display of industries, and, as a natural consequence, those delightful and indeed important occasions were for the time being impracticable.

After the declaration of peace, and the attention of the people had been turned to binding up the nation's wounds and to devising means to get back to a normal condition, members of the Institute again agitated the propriety of returning to the custom of holding annual fairs. In 1867 the Board of Directors was instructed to inquire into the expediency of reviving the old custom, and the incoming Board of Directors was instructed to investigate fully the practicability of procuring a suitable building. But the want of ample accommodations made it necessary then to abandon the project. In the year following another attempt was made. A committee of five was appointed to take the whole subject into consideration. The opinions of a large number of business men were asked in regard to the feasibility of the plan; but the replies that came were few in number and by no means encouraging, so that the subject was again postponed.

In 1869 an event occurred which gave a new phase to the

question, and impressed a large number with the importance and practicability of undertaking something on a grander scale than had ever been attempted in the city. This was the Exposition of Textile Fabrics, held in Cincinnati on the 3d, 4th, 5th, 6th, and 7th days of August, 1869, under the auspices of the Woolen Manufacturers' Association of the North-West. The variety, extent, perfection, and artistic merits of the goods brought from the looms of the West and South quite surprised the best informed. Unawares, a mighty interest had been ripening in our midst, the first sheaves of which, while they were calculated to astonish in themselves, gave promise of wonderful harvest, in the garnering of which the West was already about to engage. The success of this effort was of so distinguished a nature, and its benefits so marked, that before its close the matter of holding in Cincinnati an exhibition which should embrace the whole catalogue of our manufactures was earnestly agitated.

At the quarterly meeting of the Board of Trade, held September 11, 1869, Major A. T. Goshorn offered the following preamble and resolutions, which were unanimously adopted:

WHEREAS, The manufacturing interests of Cincinnati are recognized as the chief element of her prosperity, and should therefore be fostered and encouraged by every means that will bring them prominently before the notice of our citizens and the business men of the West, it is

Resolved, That it is the duty of the Board of Trade, as particularly representing the manufacturing interests of the city, to recommend to the manufacturers the necessity of annual Expositions of every branch and article of manufacture in the city and vicinity.

Resolved, That it would be expedient to hold such an Exposition in this city in the spring or summer of 1870, and therefore the Committee on Manufactures is hereby instructed to inaugurate the ways and means to render such an Exposition successful and a credit to the city.

The desirableness of a grand exposition of manufactures, products, and arts had been agitated among the members of the Chamber of Commerce from the close of the Exposition of Textile Fabrics, and on the 18th of September, 1869, at a meeting of the Board of Officers, on motion of Abner L. Frazer, the President of the Chamber was directed to appoint

a committee on the proposed exposition to be held during the approaching year. At a subsequent meeting, held on the 4th of October, the following Committee of the Chamber of Commerce was appointed on the subject, to-wit: Abner L. Frazer, S. F. Covington, James H. Laws, C. H. Gould, and Jacob Elsas.

At a meeting of the Board of Directors of the Ohio Mechanics' Institute, held October 5, 1869, a resolution was adopted to the effect that the Institute would "hold a Grand Industrial Exhibition during the fall of 1870;" and the following members of the Institute were appointed a Committee to investigate the subject of a suitable location, viz.: P. P. Lane, Thomas Gilpin, James Dale, and Charles F. Wilstach. To this Committee H. McCollum was subsequently added, making five members.

On the 9th of October, 1869, the following communication was sent by the officers of the Mechanics' Institute to the Board of Trade:

CINCINNATI, October 9, 1869.

M. GREENWOOD, ESQ., Pres't of the Board of Trade, Cincinnati, O.:

Dear Sir: At a meeting of the Board of Directors of the Ohio Mechanics' Institute, held on the 5th inst., it was

Resolved, That the Ohio Mechanics' Institute hold a "Grand Exhibition of Arts and Manufactures" during 1870; and, be it further

Resolved, That the above action of the Institute be communicated to the Board of Trade of Cincinnati.

It is the earnest desire of the Institute that this Exposition be attended with entire success, and be worthily representative of the "industrial reputation" of the West.

Any action that may be taken by your association pertaining to that end will be highly appreciated by the Ohio Mechanics' Institute.

Yours, very respectfully, on behalf of the Institute,

JOHN B. HEICH, *Clerk.*

This communication was received by the Executive Board of the Board of Trade October 29, 1869, and, on motion of A. T. Goshorn, the following resolutions were unanimously adopted:

Resolved, That the earnest co-operation of the Board of Trade is hereby pledged to the Board of Directors of the Ohio Mechanics' In-

stitute, in the effort to make the "Grand Exhibition of Arts and Manufactures," to be held under the auspices of the Institute during 1870, an entire success and worthily representative of the industrial reputation of the West.

Resolved, That the Committee on Manufactures be, and they are hereby, instructed to immediately confer with the Board of Directors of the Ohio Mechanics' Institute, with the view of co-operating with them in inaugurating the ways and means to render the proposed Industrial Exhibition successful and a credit to the city.

On motion of Jos. Kinsey, A. T. Goshorn and Josiah Kirby were appointed a Select Committee to co-operate with the Standing Committee on Manufactures, viz.: P. P. Lane, Thos. Wrightson, and H. A. V. Post, in carrying out the spirit and intention of the foregoing resolutions.

In February, 1870, Abner L. Frazer, Secretary of the Committee appointed by the Chamber of Commerce on this subject, addressed the Board of Trade, informing the latter body of the appointment of a committee to organize a General Exposition of all the manufactures and products of the city during the year 1870, and requesting the Board to appoint a similar committee to co-operate with the Chamber of Commerce. This communication was received at a meeting of the Executive Board of the Board of Trade, February 17, 1870, and was referred to the Committee of the Board already appointed to arrange for the holding of such an Exposition.

At a meeting of the Board of Directors of the Board of Trade, held March 14, 1870, a Special Committee appointed to select a Standing Committee for the year ending March 1, 1871, reported in favor of making the Committee on Industrial Exposition a Permanent Committee, with a view to having the Expositions held annually. This recommendation was concurred in, and the following persons were appointed said Committee for the year 1870-'71, viz.: Josiah Kirby, A. T. Goshorn, H. A. V. Post, Daniel B. Pierson, and W. H. Blymyer. Two days after this, on the 16th of March, the respective committees of the Chamber of Commerce, Board of Trade, and the Ohio Mechanics' Institute, held a joint meeting for the purpose of exchanging views in regard to a joint exhibition. At this meeting these three committees

were united into one General Committee to provide for holding the "Cincinnati Industrial Exposition of Manufactures, Products and Arts, in the year 1870," and the following officers were elected: President, Charles F. Wilstach; Vice-Presidents, James H. Laws and Josiah Kirby; Treasurer, H. A. V. Post; Secretary, Abner L. Frazer. Subsequently, on account of his removal to New York, H. A. V. Post resigned his position as Treasurer, and C. H. Gould was elected to fill the vacancy, and Joseph Kinsey was elected to fill the vacancy in the Committee from the Board of Trade, arising also from Mr. Post's change.

A complete list of sub-committees was appointed, and the project was now fairly inaugurated. The remainder of the history recounts hard toil and not unfrequent disappointment, but presents steady progress. Meeting of the Committees followed meeting. Preparations commensurate with the magnitude of the undertaking were begun. To aid in the enterprise the Chamber of Commerce, Board of Trade, and Ohio Mechanics' Institute each appropriated one thousand dollars. This, however, was but a small part of the sum necessary to assure the success of such an effort. The pecuniary aspect of the case had been the most difficult one to the friends of the present undertaking, as well as to the officers of the Mechanics' Institute who had been laboring before them. A plan was, however, determined on, which proved to be entirely practicable. This was the creation of a Guarantee Fund to be secured from citizens of Cincinnati, on the condition that if any surplus should remain after the payment of the expenses of the project it should be returned to the subscribers in proportion to the amount so contributed. The amount thus secured was twenty-four thousand dollars; and, as an evidence of the complete financial success of the Exposition, it may be stated that the entire sum was returned to the subscribers after the close of the Exposition.

The next thing demanding attention was a suitable edifice, eligibly located, in which to hold the exhibition. The necessity of erecting a building for the accommodation of the meeting of the North American Saengerbund, to occur in

Cincinnati during the following summer, furnished the opportunity of securing such a structure as was desired. Five thousand dollars were contributed by the General Committee of the Exposition towards the erection of an edifice, with the understanding that the same should be constructed with a view to furnishing the Exposition suitable accommodations after the approaching Saengerfest.

Immediate steps were taken to bring the enterprise properly before the public through the newspapers and by other means. The most difficult thing to manage appeared to be the matter of transportation, and this, not so much with reference to the shipment of goods intended for exhibition as in providing reduced fare for visitors. By reference to the report of the Committee on Transportation, published in this volume, the railroads, steamboats, and express companies that agreed to bring articles intended for exhibition at reduced rates will be seen. The half-fare arrangements for passengers were not generally of a satisfactory nature. The railroad companies, with the exception of the Louisville Short Line, did not appear to have that confidence in the success of the enterprise that inspired the more sanguine friends of the project, and, as a consequence, were indisposed to throw open their roads daily to such as desired to attend the exhibition. At a season of the year when large numbers were visiting the city on business, they did not think it expedient to present too strong a temptation for such to avail themselves of the reduced rates. They, however, with the exception of the Ohio & Mississippi Railroad, agreed to run half-fare excursion trains on specified days each week, for such as desired to avail themselves of this opportunity, and during the last week a number of the roads run daily half-fare trains. This arrangement contributed largely to the attendance; but the number from the country was doubtless much less than it would have been under more favorable circumstances.

Arrangements were perfected with nearly all the leading hotels and boarding-houses—a full list of which appears in this volume—for fixed, and in some cases, reduced rates to visitors. These rates were published in the newspapers, which

enabled persons who desired to visit Cincinnati at this time to fully weigh the cost, and to determine beforehand where they would stop, without the danger to imposition which visitors in other places have sometimes, on similar occasions, been compelled to encounter.

The preparations for the grand event continued throughout the six months that intervened between the organization of the General Committee and the 21st of September, which was the time selected for the formal opening of the exhibition. As the time approached for the commencement of the Exposition, the duties of the various committees multiplied, and the half year proved itself quite short enough to arrange all the details for such an undertaking.

THE BUILDINGS.

At first it was supposed the main building erected for the use of the Saengerfest, on the city grounds on Elm and Fourteenth streets, with the addition of a structure for the exhibition of machinery, would be sufficient to meet the wants of the Exposition. It was, however, apparent before the opening day that these accommodations would not be equal to the wants of the enterprise, so that three buildings were added, two of which were subsequently known as Fine Art and Music Hall, and Mechanics' Hall respectively.

The main building, which fronted on Elm street, was two hundred and fifty feet in length by one hundred and ten in width. The room consisted of a succession of grand arches, the extreme height of which was seventy-two feet. Extending around the entire building were galleries, approached by spacious stairways, and furnishing seventeen thousand four hundred and sixty-eight square feet of floor space. This hall and the galleries furnished a floor area of forty-four thousand nine hundred and sixty-eight feet. A bridge was thrown across the middle of the hall, rendering it more easy for visitors to move through the galleries, besides affording increased room for exhibitors.

Power Hall occupied a position on the south-west of the main hall, with which it was in close communication. This structure was one hundred and eighty-four by one hundred

and fifty feet, one story in height, with the steam boilers for supplying power located in temporary buildings on the south. This hall, with the buildings attached, afforded an aggregate of thirty-three thousand six hundred square feet.

Fine Art and Music Hall, on the north-west of the main hall, was one hundred and twelve feet long by one hundred and four feet in width. This was divided into four apartments, each the length of the building, and all communicating with each other at the ends. These rooms were, in the clear, eighteen feet in height and furnished wall space of about twenty thousand square feet. The walls were handsomely tinted and the apartments well lighted from the roof.

Mechanics' Hall was located on the north and north-east of the main hall, and was two hundred and twenty-four by eighty feet. This was a room of fine proportions, affording floor space of eighteen thousand five hundred and thirty-two square feet. Light was admitted from both the roof and side windows.

On the south-east of Power Hall, a building was erected specially for the use of the California Steam Plow which proved an object of very considerable attraction. This was substantially a continuation of the boiler building, and was the fifth structure erected for the uses of the Exposition.

The floor space of the five buildings aggregated one hundred and eight thousand seven hundred and forty-eight square feet, equal to about two and one-half acres. The wall surface for exhibition purposes was eighty-nine thousand square feet, making a grand total of over four and one-half acres.

Elsewhere in this report will be found a lithographic plat of exhibitors' space, which will furnish additional information concerning the space occupied by the various departments and exhibitors therein.

THE FORMAL OPENING.

The evening of Wednesday, the 21st day of September, was set apart for the formal opening. The day had been a busy one. Committees had been overrun with work. Exhibitors had come with immense quantities of their products. Applicants for room had thronged the office and beset the clerks

for space, which in many instances could not be supplied to the extent desired. The sound of the hammer and saw had been heard throughout the day, and in every department there was bustle and hurry. Though the space had generally been assigned, there was much material intended for exhibition that was not yet in shape. Many things for which application had been made had not arrived; nor was that which had been put in place in a condition to show to the best advantage. There was yet considerable confusion; but it was not complete chaos, for here and there were evidences of system cropping out, giving promise of the splendid day that was not far in the rear of a cheerful dawn.

At night the doors of the mammoth building were thrown open. The attendance was not so large as was expected, nor indeed equal to what it should have been. The crowd ought to have been thousands, whereas it was numbered by a few hundred. The people early seemed to be unaware of the magnitude of the display, and to have little idea of the success that the enterprise was to attain before many days. The first hour was spent by visitors in wandering up and down the long aisles, admiring the beautiful fabrics, the useful productions, and the wonderful machinery, only a part of which was yet in place. The latter was the heaviest of all the articles to be exhibited, and was less expeditiously disposed. It was not child's play to move those ponderous machines, or the work of a novice to delicately adjust them. It was not the work of hours but of days to get them in shape, so that they should work to the best advantage and with perfect safety.

At a quarter before nine o'clock the visitors gathered before the platform in the main hall, and were called to order by the Hon. Charles F. Wilstach, President of the Exposition. Prayer was offered by the Rev. James Y. Boice, pastor of the Reformed Presbyterian Church, after which Mr. Wilstach introduced the Hon. A. T. Goshorn, President of the Board of Councilmen, who spoke words of welcome in behalf of the General Committee:

ADDRESS OF A. T. GOSHORN.

MR. PRESIDENT—There are occasions in the history of all communities, that are worthy to be recorded as noting their progress and encouragement of the useful mechanical and liberal arts. There can be no greater evidence of the culture and of the social and political advancement of a community than are illustrated by its mechanical and artistic development, and the desire to bring the fruits of its industry into profitable competition with that of other communities. We inaugurate this evening such an event in the history of Cincinnati. Located in a great manufacturing district, distinguished alike for its vast mineral productions and mechanical ingenuity, it has seemed eminently appropriate that the entire country should be invited to meet here in friendly competition, and to make an exhibition of the triumph of mechanical skill and of the growth of the arts and sciences. The last decade witnessed the devastations of civil war and the destruction of many industrial interests. At the beginning of another decade, marked by the prosperity of the people and by the rapid development of the wonderful resources of the land, and rejoicing in the harmony of our political institutions, we have fitly inaugurated this Exposition as an evidence of the fruits of a substantial peace, and of the industrial interests of the country.

We have here a beautiful, interesting, and practical demonstration of the great activity of the American mind, and of the impulse given to all branches of industry by the demands of a new country, a new nation, and almost a new civilization. The inventive genius here displayed, and this exhibition of an almost infinite variety of the productions of skilled labor and of cultivated taste, seem almost incredible, and could not be better realized and appreciated than when collected in a great storehouse, such as we are gratified in presenting to the public this evening. It is, therefore, with peculiar pride, in behalf of the General Committee in charge, representing the Chamber of Commerce, the Board of Trade, and the Ohio Mechanics' Institute, of this city, that I extend to the exhibitors and strangers in attendance a most cordial welcome to our city, and to the freedom of these extensive and spacious halls. The Committee has spared neither time, energy, nor means in the preparations necessary to render the enterprise a success in every department. From its inception, to this time it has continued to grow, until its demands have far exceeded our expectations; but we hope you will find the accommodations ample and commensurate with your ready and liberal response to our invitation to honor us with your

presence and with an exhibition of your articles, and we have no doubt that this Exposition will result beneficially to your personal interests and add a new impulse to the industrial interests of the country.

Mr. Wilstach then introduced to the audience Senator John Sherman, of Ohio, who addressed them as follows:

ADDRESS OF SENATOR SHERMAN.

We are told by the Board of Managers, under whose auspices this Industrial Exposition is opened, that it is to serve "as a true index of our Nation's progress in the march of civilization." It does not need any human voice to pronounce it a success. This vast building, filled with the mute productions of every branch of industry; these machines, the ingenious contrivances of human invention; this multitude of fabrics for the natural and artificial wants of mankind, speak without words to the eye and the mind of the march of civilization. Before engaging in their inspection, it may be well for us to form a clear conception of some of the types of the civilization of our age and country, and to trace, if we can, how they have been influenced by the government and laws under which we live.

The best test of civilization is production. A contrast of the productions of our age with the production of former ages presents, in a striking way, the inventive genius of our time. In ancient times, nearly all production was the work of the hand, aided somewhat by the simplest mechanical forces—the lever, the screw, and the fulcrum. Now nearly all labor is performed by machinery. Of all the varied productions here exhibited, nearly every article is the work of power drawn from the earth, the air, and the water—hidden forces, discovered in modern times and applied to the simplest uses of mankind. We stand amazed at the pyramids of Egypt, the temples and great public works of Greece and Rome, and by the buried ruins of cities of Asia and America, now protected by deserts and wilderness. These were built by the rudest forms of manual labor, by the sacrifice of thousands of human lives, and mainly to gratify the pride or ambition of despotic rulers. Now all the works of the ancients are easily surpassed by the use of the simplest physical forces invented by modern machinists, and directed by intelligent and well paid labor.

During the middle ages invention was chiefly occupied in producing new arms, furniture, ornaments of dress and show, tapestry, and other articles of luxury designed solely for the use of caste and classes, and in building cathedrals and palaces. Painting and sculpture, the highest

forms of luxurious production, came to great perfection. Some of these works of the old masters are now prized as the most precious property of cities and states. All of these productions were the workmanship of the hand, inspired often by genius; but it was genius working as a slave, poorly paid, living in a garret, and patronized by some lord to whom the accident of birth gave acknowledged superiority.

The obstructions to mechanical invention during the middle ages were almost insuperable. The inventor was not protected in the property of his invention. A new device or theory was often treated as the work of the devil. Still we look to the middle ages as the cradle of modern civilization, and especially of the spirit of inquiry which, despite of obstacles, proclaimed new dogmas of religion, new theories of the earth, and produced such radical agencies as gunpowder and the printing press. And mechanical employment, during this time, laid the foundation of civil liberty by forming societies, guilds, and associations, and battling bravely for municipal rights.

In our age all obstacles to industry have been removed. Every useful invention is protected by our patent laws. Our common schools start the mechanic with the general rudiments of learning, taught in the simplest form in his own language. He learns more of the physical forces of nature, subject to his call, than the profound study of Newton or Franklin could reveal. He sees in actual use for heat, light, motion, and power, the commonest elements around us. He knows that any new application of these to industrial uses is the road to wealth and influence. His chemistry tells him that each of these elements contains hidden powers yet undefined as potent as the expansion of water into steam. He sees the rewards of mechanical industry in great establishments, manufactories, railroads, and machine shops owned and controlled by mechanics who commenced with daily labor. He can here see innumerable examples where, by some simple device seized by an ingenious mind, the labor of thousands is done by a mechanical force. He sees agriculture, the most general occupation of man, revolutionized in all its implements and modes by mechanical contrivance. He sees new forms of industry unheard of before, and old industries, as old as the fig leaf, brought into life or changed by invention. All the multiplied agencies of commerce are the novel inventions of mechanics, and these change so rapidly that, in almost every case, a device is superseded by improvements within the life of a patent. If, then, we contrast the civilization of our age with the civilization of other ages, the most impressive of all contrasts is the wonderful progress of invention during our century beyond that of any other century of human history.

When we compare the inventions of our own country with the inventions of European countries, we notice this peculiarity: Our inventive genius turns instinctively to the application of mechanical force to the common uses of life—to furnish implements, food, clothing for the million, rather than to furnish luxuries for the few. This contrast is manifest whenever our productions are brought into contrast with the productions of other nations. Mr. Beckwith, the Commissioner of the United States to the Paris Exposition, in his report, says:

“The high position conceded by the verdict of the times to American industrial products is not due in general to graceful designs, fertile combinations of pleasing colors, elegant forms, elaborate finish, or any of the artistic qualities which cultivate the taste and refine the feelings by awakening in the mind a higher sense of beauty; but it is owing to their skillful, direct, and admirable adaptation to the great wants they are intended to supply, and to the originality and fertility of invention which converts the elements and natural forces to the commonest uses, multiplying results and diminishing toil.”

Thus we find that, though the cost of production is greater here than in other countries, certain classes of American implements compete successfully in the markets of the world. Our plows, cultivators, reapers, and shovels, which lessen the daily toil of millions of men, are sold in all parts of the world. Our sewing machines were exported to the value, last year, of \$2,333,326, thus lessening the wearisome toil and increasing the earnings of the worst paid of all human laborers. Shops for the express purpose of producing our labor-saving machinery are established in the leading countries of Europe, so that the cheaper labor of those countries may be used.

The returns of the Patent Office show that more than nine-tenths of all American inventions are designed to lessen labor in the common employments of life. The classification of articles for this Exposition shows that you here contemplate the useful rather than the ornamental. You can not properly exhibit the industry of the Great West without yielding nearly all your space to the useful implements of common life. The mowing machine, and not the cashmere shawl, the Brussels lace, the Gobelin tapestry, or the rich porcelain of France and England, is the type of our production. We seek to save labor. They serve to pamper luxury.

It may be worth while to state generally the causes for this tendency of American production:

1. The scarcity and comparatively high price of labor in the United States. A machine that will lessen this labor or increase production

will result in a much greater saving than in countries where manual labor is abundant at the cost of a scanty subsistence.

2. The intelligence of the laborer is far greater here than in Europe, and demands for his use the best form of implements available. The use of improved machinery increases in proportion to the intelligence of the community, and the capacity of the laborer to use it increases with his intelligence.

3. The unrivaled facility offered by our public domain and liberal Homestead law is a constant temptation to emigration westward, and a constant drain upon the best labor of older communities, creating a vacuum only to be supplied by higher prices or improved implements.

4. Our civil war, by withdrawing from productive labor a million of men, compelled the unexampled increase of labor-saving machinery, especially on the farm, and the advantage of its use being once demonstrated is not surrendered when labor is again abundant.

5. The production of the finer fabrics requires a greater perfection of labor to the cost than the production of coarser fabrics. The price of labor is a greater element of its cost, and its transportation is less.

Whether from one, or all of these causes combined, the fact remains, that American invention is mainly directed to labor-saving, and American industry is mainly employed in the production of common useful fabrics.

The question, then, remains, how our industry is affected by the character of our government and laws. In a republican government, where the whole power rests with the mass of the people, who, from the nature of things, must labor for a livelihood, it is manifest that every measure that tends to develop or diversify their labor and to increase their wages will in due time become the law of the land. Within the limits prescribed by the Constitution, the tendency will be to legislate for the interests of those who hold political power. And this tendency is strengthened by the general principle now in force, that all persons born in this country, or naturalized under our laws, have equal political and civil rights. If, then, any proposed measure will promote the interest of labor, even at the expense of capital; it will surely be adopted, unless prohibited by the Constitution. This tendency of republican institutions, when contrasted with the opposite tendency of monarchical institutions, exhibits the great and important changes effected in our country by the spirit of our laws and the beneficial results we have derived from them:

1. The absolute equality of our citizens secures every one an equal chance in all the employments of life. A man's own conduct, intelligence, and enterprise, govern his success, and not the misfortune or poverty of his parents. Even social distinctions, so potent elsewhere, are feeble barriers here to any one's progress.

2. Our laws for the descent and distribution of property dissipate estates, and with singular regularity reduce the second or third generation to the bottom of the ladder, unless the child develops in his own personal character qualities that would raise him from poverty.

3. The transfer of the expense of educating children from the father to the State, relieves the father, if poor, from a heavy burden, and places the son at once on a footing of equality in education with all others.

4. The power of State and local taxation—often abused—transfers to property all the expenses of local improvement, and leaves the poor man free from all taxes, yet with equal political power.

5. The disposition of the public lands, under the Homestead act, sets aside this, the common property of the Nation, for the use of those only who need it for their support.

6. The support of the poor and of numerous hospitals for the Nation's unfortunate is borne entirely by property, and not at all by those who depend upon labor only, yet the families of those who labor furnish most of the beneficiaries of this bounty.

All these provisions and many others are in favor of labor as against capital, and are the just and inevitable result of republican institutions. They place the laboring man here on a vantage ground not possessed by him elsewhere. He soon, if industrious, becomes a capitalist by acquiring a homestead, and in innumerable cases rises to wealth, position, and honor. Indeed, in this country, the lines between capital and labor are as evanescent as the waves of a cloud. How many who hear me now have met the billows of this ocean with its sharp, hard, uncertain changes? Who can say when he will be overcome by them?

Thus much has been done for labor by legislation. Can more be done in that way? I will carefully abstain from making any remark that may seem to any one to bear upon the current politics of the day, and as the question how far we may protect the labor of the country in the framing of tariff laws is of that character, I will pass it by with the simple remark that I do not think, in the present state of our finances, it is involved. Any tariff that will produce the large revenue we must raise from imported goods will give to our industry reasonable protection. The details of this subject are not proper here.

You meet to exhibit the common productions of capital and labor. It is difficult to adjust between them the division of their profit. Each is free. You can not force capital into production, nor men to work. Is there any way by which human legislation can increase the price of labor? There is one law that all human experience shows to be a

higher law, and that is: a government can not fix the price of any article produced. This is done by demand and supply, and depends upon the changing wants, fancies, and fashions of mankind. If we can not fix the price of the product of labor, how can we fix the pay of the laborer? We may help and elevate the laborer by liberal laws; we may encourage and protect capital; we may furnish markets for the product; but we can not by law adjust the division between them of the price of the product. It must be fixed by their free and voluntary contract.

I, therefore, conclude that the Government, either State or National, ought not to control contracts for labor, or to regulate time, price or pay, but to expend its force in measures to advance production, to lessen burdens, and to protect all in the right freely to contract and be contracted with, and in the enjoyment of person and property. In the eager chase of demagogues for power they may seek to array the masses who labor against the few who employ; but, in the rapid progress of the development of American industry, experience shows that the laborer is able to secure fair wages by the advantages he here possesses by the steady demand for all labor, and by free and voluntary association with others engaged in the same employment, without appealing to unlawful combinations, to acts of violence or agrarian laws.

In conclusion, I express the hope that this Exposition may tend to develop the industry of the vast region naturally looking to this city as the center of its trade. Especially I hope our neighbors of Kentucky will aid us to be better friends, by allowing free railroad communication over her soil. We are all citizens of a great and powerful country, each State and section contributing by some production to the grandeur of the whole. Let us develop the Union which God ordained; which He has bound together by great rivers and chains of mountains, and girdled with oceans and lakes. In the speedy future all our civil commotions, all our political differences, will be forgotten in our pride for the industry, growth and magnificence of our common country.

At the close of the speaking Heidel's Band, which had furnished most excellent music during the evening, regaled the audience with another piece, after which the meeting adjourned.

THE SUCCESS WHICH FOLLOWED.

During the second day of the display there was every-where activity. Goods in great quantities began to arrive at an early

hour, and continued almost without intermission throughout the day. Throngs of people still gathered about the entry clerks. New applicants sought space they might have procured at the expense of much less embarrassment had they made the venture earlier. Dispatches arrived from distant parties begging for room, saying they had been mistaken in relation to the time of opening. The heavy tramp of laborers carrying goods from hall to hall was ceaseless from morning until night. The rooms resounded with the driving of nails and the thumping of boxes, but there was not the confusion of the day before. There was a tremendous aggregation of iron, and brass, and stone, and wood, and glass, and wool, and cotton, and flax, and paper, but out of this was rising, in hundreds of places, little settlements—miniature stores, beautiful bazaars, sample rooms, that already gave promise of order and beauty when skillful hands should have disposed of all their wares and given them their appropriate places. The number in attendance during the day was comparatively small, but it was large enough in view of the work yet to be done.

An important step was now taken by the General Committee in the matter of admission fees. It was quite clear to many that the first decision, fixing the price of a single admission at fifty cents, was a mistake. It was an occasion big with interest to all classes. The good citizen, the political economist, the merchant, the mechanic, and the manufacturer were alike concerned. The laboring men and women, and even the children, too, were interested, for the Exposition represented powers that were moving to materially affect the condition of all. It would be beneficial, too, in proportion to the number of persons brought in contact with what was to be seen. The exhibition was for the whole people. It represented departments in the industry of the country, in which all were more or less interested. That which men use in every-day life was there—there in its best forms, in its most approved patterns and in the best qualities. So far as possible, consequently, every obstacle to the attendance of all classes should be removed. It was then a fortunate determination which the Committee reached in reducing the price of

single admissions to twenty-five cents, and providing that, coupon tickets, admitting five or ten persons, might be purchased at a rate equal to a single admission of twenty cents. While this was done, an arrangement was perfected for the admission of children at ten cents each, and for the sale of tickets to manufacturers, for their employes, in packages of twenty, at five dollars per package.

On Friday, the third day, many changes were made which put quite a different face on the exhibition. Some new assignments were made. Fine-Art Hall had received contributions of a large number of pictures, and this department was greatly enhanced in appearance.

The opening week closed under favorable circumstances, the attendance on Saturday being much larger than at any time following the formal opening. Indeed, the last day of the week was about the first on which the exhibition was ready for a satisfactory visit. The week had been one of preparation rather than of exhibition. It was a week devoted to securing a settlement. Some mistakes were made; these had to be corrected. Some men had received assignments that were unfortunate for them and unfavorable to the exhibitors; such had to be changed. A few who had applied for room failed to put in an appearance at all, but the committee having the matter in charge did not feel justified, without giving due notice, in awarding the space to others, though plenty would have been glad to occupy it.

Again, there were some slow exhibitors toward whom forbearance must needs be exercised. There, too, were some timid mortals who were not sure it was to be a success, who were willing to risk nothing to promote the enterprise, until it rose to magnificent proportions and needed no help; then they wanted a place in the great show window of our manufactures, products, and arts. Such were gratified. Some complained at the delay, but such found fault without foundation. To prepare and arrange all the details of such a stupendous display was a work of which few are aware. There were a multitude of little things to look after, and scores of great ones. In the Power Hall the work had been tedious and hard. The machinery, much of it, was very heavy, and

could not be moved about with readiness. It was a steady, hard tug, all the week, and even at the close there was comparatively little machinery that had its connections made, and was ready for business.

A very different phase was put on things at the commencement of the second week. The exhibitors had availed themselves of the opportunity to put their wares in the best shape. The brass and copper and other metals had been burnished. The bottles and jars of the druggists were shining like mirrors. The pictures in the Art Galleries had thickened. The vacant steps on the stage had received fresh reinforcements of rare plants and flowers from the gardens of our florists. Much of the machinery that before had not been running was now in operation. On Monday the space which had been applied for, but not used, was assigned to other persons who were too glad to take advantage of their neighbors' delinquencies.

As the week proceeded the exhibition ripened. There had been evidences of success; harbingers of glorious results; gleams of light that came like messengers to announce the near approach of a day of rejoicing for the men who conceived this gathering of the industries of the country, but there had never been such evidences of a splendid achievement as appeared towards the close of this week. Not merely that people came in increased numbers—indeed by thousands—and that the step of ladies and gentlemen, who moved along the aisles admiring the wonders that industry and science and skill had brought together, was heard from the opening to the closing of the doors; rather that the preparations for the display had been so far completed as to render it apparent that the great exhibition had been unveiled, and the splendor of its proportions had come into full view. The preparations were now so nearly completed that each thing done was like the last finishing touches to a picture, that only impart to it a little more freshness or draw out more distinctly that which the greater number of eyes would acknowledge to be perfect without it.

The larger part of the work was now done, and little re-

mained but for visitors to enjoy what the inventive skill and productive industry had brought them for their instruction and entertainment. The number of visitors rapidly increased. Each day brought its steady reinforcements. Instead of hundreds, they now marshaled thousands, daily. Up stairs and down they thronged—looking, admiring, and commending. The more the visitor saw of the exhibition, the more he was impressed with its extent. He wandered through the aisles and appeared to see every thing, and yet each visit revealed something interesting he had not before discovered.

That which had been done surprised almost all; for few had the facilities of knowing how varied, and interesting, and extensive were the manufactures of Cincinnati and the West. How many knew before the Exposition of Textile Fabrics in 1869 that the best worsted dress-braids produced in the United States, if not in the world, were made in Cincinnati? Who was aware of the fact that a German in the same city was manufacturing the only wool plushes made in this country—goods entering largely into both railroad cars and furniture? Again, how few knew the character and extent of the manufactories in this city of the common white and granite wares, articles as necessary to every household as the table upon which the poor woman spreads her scanty meal, and that two establishments were now actively engaged in this business, bringing their clays from many States? There were on exhibition about two hundred separate pieces, embracing almost every thing in the shape of whiteware. The quality was surprising. There was granite with a gold band, which was beautiful, and full sets that were hardly inferior to the old ironstone china. The visitor would find two pitchers, one marked with the Cincinnati maker and the other with the foreign manufacturer. If he took them to the light and carefully inspected them, unless he were an expert he would not detect the difference. Did not this mean revolution—ultimately a great change in the whole matter of the queensware business? A few years ago we had only the yellow ware; then we made the common white; at the Exposition we had the granite. With such testimony as this before him, was it

not natural for the visitor to ask, will not, in a comparatively few years, the millions we are paying to England for such productions be kept at home, and the operatives be fed with the produce of our own country?

The second week of the Exposition closed on Saturday night at ten o'clock, after about twelve thousand persons had visited its hall during the day and evening, and about fifty thousand during the week.

From the beginning of the week to the close, there was a gradual increase in the number of visitors, and no abatement of interest. Indeed persons had been coming each day, apparently as much interested at the close as at the beginning.

During the day-time on Saturday there was almost double the number in attendance that had been present on any other day. The visitors embraced many persons from the interior, who came on the early trains and returned late. Not a few remained there the entire day, taking their meals at the restaurant in the building.

The third week was one of remarkable success; the halls were thronged from day to day; over eighty-five thousand persons were present during the week. On the last day of the week fully eighteen thousand persons visited the halls. The day alone brought twelve thousand, which was the largest number that, at any time during the progress of the exhibition, had been present during daylight. This was specially a day for the children. Large numbers were there from the public schools; some in charge of teachers; others unattended. How they were delighted! How many questions they asked! What new scenes were unfolded to them! How they looked and wondered! What little room for the outer world was left in their young minds as this mighty array of beautiful and, to them, wonderful things crowded in to engross their attention! What if they were a little noisy—if they did persist in touching things forbidden? What were these compared with the wonders of the new world that was opened to the larger number, as they stood amazed upon the threshold of this grand display of the useful things of life, or compared with the impressions which the young mind received in the wonder-working machinery of Power Hall.

The great Exposition had now reached the full tide of its prosperity. Its success was no longer problematical. Even the most incredulous ones had been compelled to yield before the grandeur of the display and the large number of persons who were daily seeking its halls. The whole appearance was now one of the greatest activity. Elm street had risen from one by no means popular to a great thoroughfare; omnibuses thundered along its bowlder bed from early morn until well nigh midnight; carriages, public and private, were continually whirling by; express wagons pushed along laden with supplies. On the sidewalks, during the day, steady streams of pedestrians could be seen wending their way to the great hall, or returning from it after hours profitably spent. Daily lines of omnibuses and carriages were running between the corner of Fourth and Vine streets and the Hall. Every thing bore testimony to the fact that the full sheaves of the enterprise had ripened, and that the best hopes of the sanguine had been realized.

Every department was in full and complete operation. Power Hall, which had been from the very nature of things the last to reach completion in its arrangement, now presented a scene of indescribable activity and interest. Language utterly fails to give one, not there, a full conception of the hall at this stage of the exhibition. You can not paint sounds, or the emotions of pride; of interest; of curiosity; of astonishment, which moved the crowds that thronged that hall. You can not picture the creaking machinery; the buzzing of the saws; the hissing of the steam; the rattle of the looms; the gleaming scintillations from the emery grinders; the sounds of the running mill stones; the rush of water from the steam pumps; the shrill notes of steam whistles; the clatter of planing mills; the grating of drills and borers; the heavy roll of lathes; the revolution of wheels overhead; the ceaseless movement of the leather belting; the hum of human voices; the laughter of children; the moving of thousands of people; the gleaming lights. Who could describe this ocean of sound that came up like the sea, almost omnipotent, the steady roar of the advancing wave of human progress; to the inat-

tentive ear discordant, to the thoughtful the harmony of the industries of the land? Who could daguerreotype this ever-changing scene so full of activity, of life, the restless agencies that were groaning with effort to lighten the labor of man?

Perhaps of all that had been provided for the entertainment of visitors, nothing had more about it to attract general attention than the fountain which had been erected at the west end of the main hall. A metallic basin, thirty-five feet in diameter, had been erected on a platform three feet from the floor. Around this was gathered some of the most beautiful plants and flowers that our gardens could furnish. On either hand arose rock-ribbed sides, with plants creeping from the interstices, or clinging to the little soil that the florist had provided for their temporary life at the Exposition. In the rear were rocky steps, over which the waters came leaping and plashing as playfully as they ever sought lower levels in mountain cascades. Immediately in front the fountain was continually throwing up its slender streams that quickly resolved themselves into water-jewels which fell into the pool below, or clung to the branches of the graceful pine that formed the central figure of this work of art, too natural, seemingly, to have been the work of human hands. This was a charming feature of the Exposition both night and day. During the former, the grotto was frequently illuminated with the calcium light, which gave it the appearance of a moon-light scene, as witching and poetical as the most beautiful night amid native bowers. Late in the Exposition it was, at times, lighted up with colored lights that made the water-crystals seem like jewels of many colors, like showers of rubies and amethysts and emeralds that came streaming up from never-failing sources, as bright and beautiful as those upon which the lapidary has ever expended his skill.

A noticeable feature of the fountain was the economical use of water. The fountain was first supplied from the water works, and after leaving the basin the water passed through a six-inch pipe a distance of two hundred and seventy-five feet to a steam pump. There it was caught up and driven back through a four-inch pipe the same distance, furnishing the cascades fourteen barrels per minute.

The fourth week of the Exposition was one of almost unexampled success. According to the first arrangement, Saturday, October 15th, was to close the exhibition; but, on account of the continued interest manifested, and the general desire expressed for a postponement of the time of closing, the Committee determined to continue the Exposition one week longer, concluding on the 22d of October. The attendance during this week was made up largely of persons from abroad. Excursion trains brought thousands, while many more came on the regular trains, paying full prices, rather than run the risk of not witnessing the great industrial spectacle. Fully eighty thousand persons visited the halls during the week.

The last week closed on the night of the 22d of October; closed in the midst of prosperity, and while thousands of visitors yet lingered about the portals of the great hall, anxious to catch parting glimpses of the grand display of the country's industry.

Though this was the fifth week, the number of persons who visited the Exposition was about sixty-five thousand. On the last day but one, there had been but seven days of the entire exhibition that exceeded it in receipts. On Saturday, the closing day, there were, during daylight, ten thousand visitors. At night came another throng. Among the number were many that had been there before, who came to take another look before all these things should be dispersed and the exhibition be no more.

At nine o'clock the machinery had ceased to move. At the hour for closing the President was asked if the usual signal for retiring should be given. Thousands yet paced the halls or stood around the objects of their fancy. The President indulged the audience about fifteen minutes, when the order was given to ring the bell, and from the brazen throat came the announcement that the great exhibition was at an end. But the people obeyed the summons reluctantly. They tarried in the halls, and it was only after nearly all the lights had been extinguished that the last visitor left the place. At fifteen minutes after eleven o'clock the last officer had quitted the building. "A few lights yet burned, reveal-

ing dimly the outlines of objects in the halls. The water rippled gently from the fountain. The great clock in the Art Hall, with a subdued tone, told of the passing night. The gas sputtered from a few burners. Occasional footfalls could be heard as the watchmen went slowly about their mission. The crickets chirped from Power Hall. All else was still. The fires had died out forever. The machinery, upon which spectators had looked with pleasure, was no more to join in the grand industrial chorus to which delighted ears had listened for nearly five weeks. The place was solemnly quiet. The people that had given spirit and animation to the occasion had all gone, not to return. The Cincinnati Industrial Exposition of 1870 was a thing of the past."

For twenty-seven days and twenty-eight evenings the Exposition had been open to the public as a place of amusement and instruction; a place where such interests gathered in a business focus, that the most far-sighted were unable to look from the blazing center to the ultimate consequences and benefits to the city and country, indeed to humanity itself, for all these displays of human ingenuity and skill are lights to guide men to higher places of usefulness, and strong helpers to those who are compelled to labor for their daily bread.

That it was a success, the aggregate attendance and receipts abundantly attest. More than three hundred thousand persons visited the exhibition during its progress, and it is hardly an exaggeration to say that all were pleased. Those having the best opportunity of listening to the grumblers of the world heard no disparaging words spoken of the display. Of course it did not move all alike. There were thousands of curious persons, who, doubtless, wandered through the halls merely to gratify their curiosity; and as many thousands were superficial observers, who did not dig down below the surface of this show of domestic manufactures, and products, and fine arts, to see what all these surface indications meant. But there were many more who not only took pleasure in the individual articles here to be seen, but valued them still more because they looked upon these specimens of beautiful agricultural machinery; these handsome carriages; useful stoves

and ranges; these steam engines, flouring mills, saw mills, shingle machines, planers, punchers, and drills; these looms, bung machines, type foundries, printing presses, and pumps; these water wheels, street sweepers, and emery grinders; these granite plates, pitchers, teas, and bowls; these bedsteads, bureaus, sideboards, tables, and chairs; these sheetings, cassimeres, plushes, jeans, shawls, blankets, yarns, and zephyrs; these battings, waddings, warps, twines, and ropes; these boots and shoes, hats and caps, furs, raw silks, silk sewings, millinery goods, and gentlemen's furnishing goods; these wall papers, window shades, carpets, and rugs; these rolls of leather; these goods made from wire and bristles; these iron safes, scales, builders' materials, knives, mechanics' tools, locks, doors, window shutters, and paints; these trunks and satchels; these beautiful household goods made from iron and tin and zinc and wood; these refrigerators, japan wares, works in copper and brass and marble; these sugars, soaps, candles, oils, provisions, breads, and tobaccos; these medical preparations; these sewing machines, mantels, pictures, photographs, engravings, wax and hair works, musical instruments, moldings, artificial teeth, dental tools, silverwares, philosophical instruments, and thousands upon thousands of things useful and beautiful—looked upon them as the miner looks upon the gold-bearing rocks which speak of wealth below the surface, of riches which the precious metal here and there sparkling from its rocky bed, announces within.

The success of the undertaking did not come suddenly. Though its approach was announced by signs which were unmistakable, it was a gradual growth from the opening on the 21st day of September. On the first evening of the exhibition, which was the inaugural occasion, the number was not more than five hundred. At that time the doors were formally opened, and afterward were never closed during the published hours of exhibition. On account of the extensive nature of the work, it was several days before things were fairly settled, and it was not until the middle of the following week that the exhibition had put on its best appearance. But, unsettled as were matters early, the visitors gradually increased

from day to day until the 5th of October, when the number had swelled to nineteen thousand. From this time on until the close there was a large attendance each day, with the exception of one or two days when the people were kept away by unpleasant weather.

In view of the immense throngs that congregated here for days and weeks, it is somewhat remarkable that no accident befell any of the visitors or any one connected with the Exposition. In the midst of buzzing saws, revolving wheels, and the working of ponderous machinery, men, women, and children circulated and came out without having received the slightest injury.

Another noticeable feature was the general good order that prevailed. A better behaved large company than assembled from day to day no one ever saw. A horde of pickpockets might have been expected on such an occasion; but, aside from a comparatively few small thefts, the Exposition was free from every thing in the shape of crime. Of course, this was largely due to the efficient special police to whom the preservation of good order was committed. While this was true, there was a remarkable exemption from other excesses. Though there arose above the sounds of puffing engines, and groaning machinery, and ringing bells, and notes of musical instruments, the murmur of thousands of voices, as, in the presence of so much to please, visitors made known to each other their enjoyment, there was very little boisterous talking or loud laughter. There was something about the exhibition that appealed to men's better nature and checked improprieties.

Another feature of the occasion was the immense number of children who attended. Some days the little folks were numbered by thousands, and every day they were there in greater or less numbers. It was a common thing to see whole families, the father and mother, and four, five, or six children, sometimes from distant places, spending hours together amid these things to excite the astonishment of both child and adult. It was not only noticeable, but it was a matter that gave great satisfaction to the management of the Exposition;

for it was their desire to make this the people's school-house, where things not to be learned elsewhere should be taught. That thousands of children had a new world of beauty and usefulness opened to them, and received inspirations which will serve them through life, is not the smallest part of the results of this great enterprise.

From the first the interest among the visitors continued unabated. Those who had hard duties to perform sometimes grew tired, and the exhibitors not unfrequently became wearied; but not so with the visitors who flocked to the halls. This was, doubtless, to some extent, due to the fact that persons were constantly coming from abroad. During the last two weeks Ohio, Indiana, and Kentucky were represented by thousands of persons, while not a few were present from distant cities and States. During the daylight each day brought a well nigh new army of visitors. But even to such as came frequently there was enough to interest, and indeed more than could be carefully inspected. There was one peculiarity in the exhibition that it never grew permanently tame. To the person wearied with duties it sometimes appeared to be losing its freshness; but on the following day, after he was himself refreshed, he came back to see the exhibition as bright and attractive almost as when he first looked out upon the industrial spectacle.

THE AWARDS.

Perhaps, of all that was in any way connected with the Exposition, there was nothing that gave the General Committee more trouble and embarrassment than the subject of awards. From the time fairs of a public nature came in vogue, until of late, the giving of premiums or the rendering of some sort of valuable recognition based on decisions of relative merit had been regarded a necessity, or, at least, a desirable part of the machinery of these efforts. Following time-honored precedents, the General Committee determined on a most liberal list of premiums. These, in artistic merit and expense, were on a scale commensurate with the magnitude and dignity of the exhibition. Arrangements were

made for the production of both gold and silver medals, and with the American Bank Note Company for an illuminated diploma, which, for perfection as a work of art, has probably never been excelled in the world for such a purpose.

Engravings of these medals and a full description of the diploma will be found in their appropriate places in this report. The gold medal, with the exception of the grand medal, which weighed six ounces, was one inch and seven-eighths in diameter, and weighed two and one-half ounces. The large silver medal was two inches and five-eighths in diameter, and weighed three ounces and three-fourths. The small silver medal was of the same dimensions as the gold one, and weighed two ounces.

Of these there were distributed eighteen gold medals, one hundred and thirty-two large silver medals, seventy-six small silver medals, and four hundred and ninety-two diplomas, all at an expense of about seven thousand dollars.

In providing for the distribution of these, due caution, it was believed, was used to procure competent and satisfactory judges, and a fair distribution of the honors connected with the exhibition. The articles on exhibition were divided into twenty-four classes, and again the first class (the machinery department) into nine distinct sections, making in all thirty-two divisions and sub-divisions. For each of these three judges were provided, and, in their selection, unusual care was taken to guard against the introduction of partial elements. It was provided that the General Committee should appoint one judge in each class or section; that the second member should be selected by the exhibitors in the respective classes or sections, and that the third member should be appointed by the two previously elected. It is safe to say that this arrangement probably procured a list of judges who, for capacity and impartiality, have never been excelled at a fair in the world. But notwithstanding this, in the large number of committees thus secured, from different understandings of the powers conferred, and different constructions placed upon the instructions given for their direction, there followed some disproportions and discrepancies which the General Committee

undertook to reconcile. In this apparently necessary effort, coupled with the making of the awards, which was specially reserved to the General Committee after the judges had decided upon degrees of merit, the former met the most serious embarrassments. In some cases supplemental reports by the judges were made. Modifications in awards followed when it was clear that justice demanded it, and such conclusions were at last reached as was, it is believed, in the premises, equitable.

The experiences of the Committee in this regard, however, have raised the question whether this adjunct, so full of the elements of dissatisfaction, is really necessary, and whether, all things considered, the usual practice of awarding premiums might not be dispensed with, leaving the public, who, at least, is the party most interested, to determine the question of relative merit. It has been believed, generally, that there was enough importance about these awards to secure in themselves competition, and that such a display would necessarily follow as to attract the visitors so necessary to success. But if the exhibition of manufactures, etc., could be secured without this element of probable discord, it is clear the latter might profitably be omitted.

From the experiences of the Exposition of 1870, there appears little doubt that the required show of products, etc., might be secured by the general conviction in the public mind that the exhibition was to be a success. These Expositions are great show windows, in which are displayed to hundreds of thousands of consumers the results of the mechanical, manufacturing, and artistic skill of the land. This is understood by no one better than by the manufacturers themselves; and it is believed by many that no representative of these classes, who cares to rely on the merit of his manufactures and the judgment of mankind, would be disposed, or, indeed, could afford to decline such a distinguished opportunity of coming before the people. And these conclusions are the more easily reached, when it is remembered that there are now some of the most prominent manufacturers who will not enter an article for exhibition where they are compelled to contend for honors they think both uncertain and empty.

CONCLUSION.

It would be impossible, of course, to fully weigh the importance of these displays of our industries, and the desirableness of repeating them as frequently as the labor and care incident to the necessary preparations will allow. As this historical summary has proceeded, their consequence has received attention; but their effects are too far-reaching for us to properly estimate them. They each year reveal small streams, which lead to boundless oceans of wealth. They discover agencies, apparently slight, which are equal to the building of empires. They disclose threads reaching into distant generations, which, if we might pursue, would lead us into the broader fields of national and individual prosperity, and to the grander schemes of benevolent labor which belong to the future.

Few persons, before the Exposition, were aware of the manufacturing importance of Cincinnati. Even our own citizens looked at the aggregate sum of the productions of the city without fully comprehending the inventive skill that was exercised, the mind which was taxed, the muscle that was employed, and the mighty interests that were involved. It required some ocular demonstration to adequately impress our own people with the length and breadth and depth of the business foundations of the Queen City, which have enabled her comfortably to weather the financial storms which have sorely distressed other cities, and to enable them to properly estimate the true relation which our manufactures bear to the general prosperity.

In the variety and splendor of the display, in the thirty thousand different articles on exhibition—representing one thousand seven hundred and thirty entries—they were able to read the secret of Cincinnati's stability, and that which was to prove one of her principal bulwarks in the future. For though Connecticut, California, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, Maine, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin—twenty-four States in all—were represented, and many valuable contribu-

tions came from other cities and places, nevertheless it was pre-eminently an exhibition of Cincinnati manufactures. In some of the departments our own manufacturers were the sole contributors, and in all of them they held an honorable position, both in number and in the quality of their wares.

The Exposition brought to Cincinnati scores of thousands, who came under circumstances highly advantageous to the acquirement of a full acquaintance with the greatness of the city and the variety of its resources. It opened to the masses an avenue to instruction, and gave them a new inspiration as it brought them in the presence of the mighty forces and energies which all these things represented. It aided woman in discovering new avenues to independent and profitable employment. It helped the statesman to lift a little the veil, and look into the future of a country teeming with so much which makes a people great; and helped him to discover more clearly the policy and legislation necessary to conserve these mighty forces, and to direct them in channels which will best contribute to individual success and national prosperity. It gave to our business men new ideas of trade; it turned, for a time, our active men from contemplating alone their own business, and conducted them to eminences from which they beheld a combination of interests which was amazing; it appealed to the sympathies as well as the pride of the representatives of the different departments of labor, so that while it secured a better understanding between the various divisions of productive industry, it awakened healthful emulation; it taught each department more justly to appreciate its own relative position, and while it by no means dwarfed individual interests, it impressed the mind with exalted ideas of these agencies, when all, moving in their legitimate spheres and with adequate encouragement, shall be working for the common good.

Indeed, in whatever light the Exposition is viewed, it must be regarded important. To stimulate manufactures; to diversify our productions; to develop new enterprises; to build up a home market for domestic produce; to promote commercial independence; to advertise the various branches of business; to give the people a more rational and exalted idea of

the vocations of the mechanic and the manufacturer; to elevate the public taste; to aid all classes in keeping pace with the various kinds of labor-saving machinery; to give the masses instruction combined with amusement, and to exalt the morals of the people, it is a powerful instrument. It is a mighty instructor, teaching grand lessons to all classes—an enterprise that should become a permanent institution, deserving alike the support of the authorities, the substantial encouragement of our citizens, and the earnest countenance and aid of the wise and good.

REPORT OF THE AUDITING COMMITTEE.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—Your Committee appointed to Audit the Accounts of the Treasurer beg leave to make the following report:

We have examined the accounts and vouchers of the Treasurer and find them correct, as per his balance sheet.

Respectfully submitted,

JOSEPH KINSEY,
THOMAS GILPIN,
JAMES DALE,

Auditing Committee.

REPORT OF THE TREASURER C.

1870.								
Sept.	21	To Cash received for sale of Tickets.....					\$190	95
"	22	" " " " " "					427	
"	23	" " " " " "					512	
"	24	" " " " " "					446	
"	26	" " " " " "					851	
"	27	" " " " " "					909	
"	28	" " " " " "					1,195	
"	29	" " " " " "					1,531	
"	30	" " " " " "					1,584	90
Oct.	1	" " " " " "					1,901	
"	3	" " " " " "					1,652	
"	4	" " " " " "					2,221	
"	5	" " " " " "					2,773	
"	6	" " " " " "					2,492	
"	7	" " " " " "					2,018	
"	8	" " " " " "					2,426	82
"	10	" " " " " "					1,589	
"	11	" " " " " "					1,966	
"	12	" " " " " "					2,644	
"	13	" " " " " "					2,250	
"	14	" " " " " "					1,866	
"	15	" " " " " "					1,841	61
"	17	" " " " " "					1,331	
"	18	" " " " " "					1,494	
"	19	" " " " " "					1,386	
"	20	" " " " " "					1,758	17
"	21	" " " " " "					2,196	
"	22	" " " " " "					1,598	
		" " " " Exhibitors' Tickets.....					2,488	
		" " " " Manufacturers' Tickets.....					516	
		" " " " Medal, Certificates, and Diplomas					615	
		" " " " Refreshment Privilege.....					678	
		" " " " Building and Materials.....					3,483	
		" " " " Tickets from Board of Trade... }					1,055	51
		" " " " Ch. of Com., R. Clarke & Co., etc. }						
		" " " " Donation from First National Bank.....					50	
								25
								38
								50
								77
								22
								08

LIST OF SUBSCRIBERS

TO

GUARANTEE FUND

OF

CINCINNATI INDUSTRIAL EXPOSITION.

Cincinnati Board of Trade.....	\$1,000 00
Chamber of Commerce.....	1,000 00
D. Carrick.....	10 00
A. S. Butterfield.....	10 00
Ohio Mechanics' Institute.....	1,000 00
Lafayette Bank.....	100 00
First National Bank.....	200 00
Cincinnati, Hamilton, & Dayton Railroad Co.....	500 00
Wm. Resor & Co.....	500 00
P. C. & St. Louis Railroad Co.....	500 00
Adams Express Co.....	100 00
M. Werk & Co.....	500 00
Burnet House.....	300 00
Indianapolis, Cincinnati, & Lafayette Railroad Co.....	500 00
Mears, Olhaber & Co.....	200 00
John Shillito & Co.....	100 00
Redway & Burton.....	200 00
Covington Rail Mill Co.....	30 00
G. K. Shoenberger.....	100 00
Robert Mitchell, H. Closterman, & Meader & Co., for selves and others for the Furniture Manufacturers.....	2,000 00
G. W. Ball & Co.....	200 00
Greenwood Stove Co.....	200 00
Procter & Gamble.....	100 00
J. Walker & Co.....	100 00
Espy, Heidelberg & Co.....	100 00
Thomas Emery's Sons.....	100 00
A. Buchanan & Co.....	100 00
S. C. Tatem.....	100 00
J. Mitchell.....	100 00

Amount carried forward.....\$9,950 00

<i>Amount brought forward</i>	\$9,950 00
B. Bruce & Co.....	125 00
C. C. Winchell & Co.....	100 00
N. Patterson & Co.....	200 00
G. D. Winchell, Upson & Co.....	200 00
Isaac Straub & Co.....	100 00
Mills, Spellmire & Co.....	100 00
R. R. Springer.....	100 00
Richard Woolley.....	100 00
T. T. Brown & Co.....	100 00
Pape Bros.....	100 00
P. G. Stevenson.....	25 00
A. Nickel.....	25 00
Easton & Roberg.....	10 00
Lane & Bodley.....	300 00
W. E. Loudon, of J. A. Fay & Co.....	300 00
Gould, Pearce & Co.....	300 00
Royer Wheel Co.....	300 00
B. Roth & Son.....	25 00
E. Meyers & Co.....	25 00
Wm. Fischer.....	25 00
Davis & Fricker.....	25 00
Sinks, Corre & Co.....	25 00
Keppler & Bro.....	25 00
George Meldrum.....	10 00
J. Schmidt.....	10 00
Bank of Ohio Valley.....	100 00
C. F. Adae & Co.....	100 00
Franklin Bank.....	100 00
Commercial Bank.....	100 00
J. & L. Seasongood & Co.....	100 00
S. B. Keys & Co.....	25 00
Henry Kessler.....	25 00
Pomeroy, Mendenhall & Co.....	200 00
Lawrence Iron Works.....	150 00
Globe Rolling Mill Co.....	200 00
T. G. Gaylord & Co.....	200 00
Gaylord, Son & Co.....	200 00
Elsas & Pritz.....	25 00
Wm. Sumner & Co.....	100 00
Cincinnati Railway Iron Works.....	200 00
Stearns & Foster.....	100 00
Woodrough & McParlin.....	100 00
Bradford & Sharp.....	100 00
Jas. Bradford & Co.....	100 00
Phipps, O'Connell & Co.....	100 00
Neff, Egan & Slocomb.....	100 00
<i>Amount carried forward</i>	\$15,030 00

CINCINNATI INDUSTRIAL EXPOSITION.

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<i>Amount brought forward</i>	\$15,030 00
J. & A. Simpkinson & Co.....	100 00
D. Lytle & Co.....	100 00
W. F. Thorne & Co.....	100 00
F. G. Ringgold.....	100 00
Dickinson, Price & Bishop.....	50 00
Lockwood & Nichols.....	25 00
Wallace & Ringel.....	25 00
Sellew & Co.....	200 00
Neave, Ward & Co.....	25 00
Bart & Hickcox.....	100 00
A. C. Richards.....	100 00
C. C. Leininger.....	10 00
Pritchard, Alter & Co.....	100 00
Third National Bank.....	100 00
J. L. Haven & Co.....	300 00
Shoenberger & Co.....	200 00
C. H. Wolff & Co.....	100 00
Jeffras, Seeley & Co.....	100 00
Shaw, Barbour & Co.....	100 00
H. F. West, Bro. & Co.....	100 00
Dickson, Clark & Co.....	100 00
R. W. Booth & Co.....	100 00
J. E. Wynne & Co.....	100 00
Hoover, Pumphrey & Co.....	100 00
Wilson & Hayden.....	100 00
Hall's Safe and Lock Co.....	100 00
Singer Manufacturing Co.....	100 00
Cope & Co.....	100 00
Executors of Thomas Phillips.....	200 00
Kenton Iron Company Co.....	200 00
A. Schultze.....	100 00
J. L. Wayne & Son.....	100 00
Perin, Gaff & Co.....	100 00
Hemingray Glass Co.....	100 00
John A. Mohlenhoff.....	100 00
Forsyth Scale Works.....	100 00
J. Earnshaw.....	100 00
Pearce, Tolle & Holton.....	100 00
D. T. Woodrow.....	100 00
N. G. Nettleton & Co.....	100 00
Wilson, Hinkel & Co.....	100 00
Fecheimer, Frenkle & Co.....	100 00
Cincinnati Type Foundry Co.....	100 00
F. E. Suire & Co.....	100 00
Lewis Wald & Co.....	100 00
<i>Amount carried forward</i>	\$19,765 00

<i>Amount brought forward</i>	\$19,765 00
Jos. S. Hill & Co.....	100 00
Kuhn, Stearns & Co.....	100 00
McAlpin, Polk & Heberd.....	100 00
Louis Stix & Co.....	100 00
Mack, Stadler & Co.....	100 00
J. Lowman & Co.....	100 00
Stix, Krouse & Co.....	100 00
W. C. Davis & Co.....	200 00
Chamberlain & Co.....	200 00
F. F. Brooks.....	100 00
John Church, jr., & Co.....	100 00
Howell, Gano & Co.....	100 00
Buchman Bros. & Co.....	100 00
J. Wynne & Co.....	100 00
J. M. Clark & Co.....	100 00
Bishop Bros.....	100 00
R. Macready & Co.....	100 00
A. Erkenbrecher.....	100 00
C. S. Rankin & Co.....	100 00
Josiah Kirby.....	100 00
F. Lunkenheimer.....	100 00
Heidelbach, Friedlander & Co.....	100 00
Blymyer, Norton & Co.....	200 00
Dunn & Witt.....	100 00
J. P. Epply.....	100 00
Ritter, Hogan & Sowden.....	100 00
M. Bare & Co.....	50 00
Black Diamond Steel Works.....	50 00
Mosler, Bahmann & Co.....	25 00
Evans, Clifton & Co.....	200 00
J. T. Warren & Co.....	200 00
Wm. Glenn & Sons.....	200 00
R. M. Bishop & Co.....	200 00
Steptoe, McFarlan & Co.....	100 00
Marmet & Co.....	50 00
G. W. C. Johnston.....	25 00
 Total subscribed.....	 \$23,765 00

The whole amount of the Guarantee Fund was returned to the subscribers.

CINCINNATI
INDUSTRIAL EXPOSITION.
1870.

CIRCULAR.

The Board of Managers of the Cincinnati Industrial Exposition take pleasure in announcing that an Exhibition of MANUFACTURES, PRODUCTS, and ARTS, will be opened in Cincinnati, commencing Wednesday, September 21, 1870.

On behalf of the Chamber of Commerce, the Board of Trade, and the Ohio Mechanics' Institute, under whose joint auspices the Exposition will be held, we cordially invite Manufacturers, Mechanics, Artists, Agents, Inventors, and others, to contribute specimens of their skill, ingenuity, and taste to this Grand Exposition, and make it a true index of our Nation's progress in the march of civilization.

It is the earnest desire of the Managers to make this Exposition of Art and Industry superior, in point of attraction and practical benefit to all concerned, to any display of a similar nature which has ever been held in this country. We therefore call upon all who are interested in the success, prosperity, and continued improvement of our domestic industry, to co-operate in an united effort to make this Exposition a grand success.

It seems almost unnecessary to present any arguments to

show the great advantages of these periodical expositions; all are alike interested in their success and maintenance; and the experience of past exhibitions in all parts of the world, furnish the most conclusive evidence of their great value as a stimulus to art and mechanism. They may be regarded as a direct incentive to emulation on the part of every artisan and producer, which will invariably be followed by a corresponding increase in prosperity; and in view of which we confidentially anticipate a generous response and a hearty co-operation from all.

In order to give accommodations which will be commensurate with the demands that will assuredly be made upon us, we will erect a commodious Exhibition Building, upon a scale far exceeding any thing of the kind yet erected for a similar purpose.

Steam power will be provided, that machinery of all kinds may be seen in actual operation, displaying the advantages and capabilities of various machines under one view, and thus testing the invention or workmanship of the various machines in the most perfect and interesting manner.

Exhibitors from different sections will find Cincinnati the most favorable location in the West. Our noble river, and the different railroads that radiate from the city in all directions, afford ample facilities for the transportation of articles. We again, therefore, invite them to use this Exposition as a valuable means of introducing their productions, assuring them that they will here find generous competition and an appreciating public.

The Exhibition is not intended to be in the least degree exclusive, as regards the character of the articles to be exhibited. We hope to see Art and Mechanism fully represented in all its various branches; also, the products of the Soil and Mines. And we also trust that the Ladies will grace our Exhibition, not only with their presence, but also with an appropriate display of their handiwork. A Committee of Ladies, auxiliary to the Exhibition Committee, will be appointed in due time, who will take especial charge of such handiwork and see to its proper arrangement for exhibition, and also to the appointment of judges in that Department.

The most ample arrangements will be made with the various railroads, steamboats, and other lines, to transport visitors and articles intended for the Exposition at the most favorable rates, full particulars of which will shortly be published.

In conducting the Exposition, the Board of Managers pledge themselves to exert the utmost diligence and care to satisfy both depositors and visitors.

The Premiums and Awards will be of the most ample character, both in number and quality.

It is very desirable that all parties intending to contribute to this Exposition, should give early notice of the articles, amount, and kind of space required.

The Rules and Regulations, Blank Applications for Space, and any information, will be promptly given by addressing the "Cincinnati Industrial Exposition," Cincinnati.

CHARLES F. WILSTACH, PRESIDENT.

ABNER L. FRAZER, *Secretary.*

CIRCULAR.

The General Committee of the Chamber of Commerce, Board of Trade, and Ohio Mechanics' Institute, of Cincinnati respectfully announce that a Grand Industrial Exposition of Manufactures, Products, and Arts, will be held in Cincinnati, commencing Wednesday, September 21, 1870, and continuing until October 15, 1870, to which Artisans, Manufacturers, Inventors, and all engaged in the production of Works of Art and Ingenuity are invited to contribute.

Ample preparations have been made for the exhibition of Machinery in operation, for the prominent display of Manufactures, Works of Art, and Products; and also for the general convenience of exhibitors.

Arrangements are being made for the cheap transportation of articles for exhibition from all parts of the country, and for their removal from the depots and wharves in this city to the place of exhibition with safety and at low rates.

Circulars, containing full and specific information relating to the Exposition, may be obtained by addressing "Cincinnati Industrial Exposition, Cincinnati."

GENERAL RULES AND REGULATIONS.

1. The Halls and Grounds will be open for the reception of articles for exhibition, from the 1st to the 20th of September inclusive. On the 21st of September the Exposition will be opened to the public, and will continue open from day to day (Sundays excepted), and from 10 o'clock A. M. to 10 o'clock P. M., until Saturday evening, October 15,

2. Articles may be entered for exhibition only, or for exhibition in competition with other articles for premium. But, in the latter list, only products of the United States will be admitted.

3. Each Exhibitor shall be required to pay an entry fee of two dollars, which will entitle him to a badge that will admit him at all hours to the Exposition.

4. Applications for space must be made by the use of the Blank Forms which will be furnished, and should be made and entered on or before the 20th day of September. Space allotted to applicants, and not occupied by them on or before the day of Public Opening, may be assigned to other Exhibitors. And the General Committee reserve the right to exclude from the Exposition articles of an explosive, highly inflammable, dangerous, or offensive character; also articles presented after the day of Public Opening, when the same can not be introduced into the Exposition without undue inconvenience to other exhibitors and visitors. Whenever the articles will admit, contributors are requested to exhibit their goods in glass cases.

5. Exhibitors will be furnished by the Entry Clerk with duplicate cards, describing each article entered for exhibition; these will be countersigned by the Department Superintendent on the receipt of the articles into the Exposition. One of these cards shall be conspicuously attached to the article which it describes, and the other must be retained by the exhibitor, and be presented as his order for the delivery of the article specified, at the close of the Exposition.

6. It is provided that Judges in each class shall be wholly disinterested; that they shall be composed of men eminent for their skill in the

arts, and particularly in reference to the class of articles assigned to them, and that they shall be appointed on or after the day of Public Opening in the following manner: One by the General Committee, one by the exhibitors in the respective class, and a third by the two thus appointed.

7. Machines, and other articles exhibited for premium, will be subjected to thorough practical tests to determine their efficiency, economy, or other alleged merits. And in this respect it is the purpose of the General Committee to conduct the Exposition with exact and inflexible justice, and in such a manner that its action, in every case, will command the confidence of the public, while its premiums or commendations will be made of permanent and substantial value to those who receive its awards.

8. The main line of shafting, from which power will be furnished for machinery in operation, is 27-16 inches in diameter, and will be run at a speed of 200 revolutions per minute. Driving pulleys of any required diameter; also counter shafts, and pulleys, and belts and hangers will be furnished to exhibitors at cost, if timely arrangements for them are made. Pulleys for the main line of shafting, if furnished by exhibitors, must be accurately balanced, and must have the exhibitor's name plainly marked upon them, and should be received before the 20th of September, to enable them to be put in place on the shaft without unnecessary labor and inconvenience.

9. No article on exhibition can be removed from the premises during the Exposition without the assent of the General Committee. But all appropriate facilities for making sales of articles for delivery at the close of the Exposition will be afforded, and after the close an auction sale will be held on the premises of such articles as have been exhibited or used in the Exposition that the owner desires to offer, under the direction of the General Committee.

10. An adequate police force will be in attendance upon the premises during the day, and watchmen at night; but all articles on exhibition will be at the risk of owner. Insurance against loss by fire will be effected by the General Committee in behalf of all exhibitors who apply and provide for the same.

11. Premiums will consist of the General Committee's Gold and Silver Medals and Diplomas. Also, the General Committee's Grand Gold Medal for best Displays in several prominent departments. Judges will be instructed to make full and complete reports of all tests and all methods employed in determining the merits of the articles examined by

them, with the result of the same in detail; and they will be moreover instructed to include in their reports, for publication in the General Report, such commendatory notices, or "honorable mention," of articles not awarded a premium as they may find entitled to such notice. They will also be instructed to notice in a similar manner articles entered for exhibition only, when found to be eminently meritorious.

12. The hours from 8 to 10 o'clock A. M. of each day, will be appropriated exclusively to the Judges, during which time no exhibitor will be admitted, unless requested to be present by the Judges; and in case the presence of an exhibitor is required, all exhibitors in the class in which he is a competitor shall be notified and permitted to attend.

13. All communications relating to the Exposition, and all boxes or packages containing articles for the Exposition, should be directed to "CINCINNATI INDUSTRIAL EXPOSITION," CINCINNATI, with the name and residence of the sender plainly marked thereon. A detailed statement of the contents of each box or package should be enclosed with the same, or sent separately by mail.

CLASSIFICATION.

Cincinnati Industrial Exposition—Open to Receive Goods Thursday, Sept. 1st. Open to the Public Wednesday, Sept. 21st, 1870.

CLASS 1.—MACHINERY.

Sec. 1. Steam Engines and Boilers, Steam Pumps, Air Engines and Steam Machinery.

Sec. 2. Water Wheels, Pumps, Water Meters and Hydraulic Machinery.

Sec. 3. Machinists' Tools.

Sec. 4. Wood-working Machinery.

Sec. 5. Cotton, Wool, Printing and Book-binding, Paper and Hemp Machinery.

Sec. 6. Agricultural Implements and Machinery.

Sec. 7. Sewing and Knitting Machines.

Sec. 8. Hoisting Machines, Grist Mill and Grain Clearing Machinery.

Sec. 9. Miscellaneous Machinery.

Class 2. Stoves, Ranges and Furnaces.

Class 3. Safes and Safe Locks.

Class 4. Building Hardware and Materials.

Class 5. Iron and Brass Castings, Gas Fixtures, Plumbing, Tin, Sheet Iron and Copper Work.

Class 6. Iron, Steel, Scales and Saws.

Class 7. Boots, Shoes and Leather, Rubber Goods, Leather Belting, Leather Hose.

Class 8. Carriages, Harness and Trunks.

Class 9. Tobacco, Manufactured and Unmanufactured.

- Class 10.* Watches; Clocks, Silver and Plated Ware, Philosophical Apparatus, Surgical Instruments and Dentistry, Military Goods and Fire-arms.
- Class 11.* Household Articles, Furniture and Upholstery, Carpets, Rugs, Mats and Paper Hangings.
- Class 12.* Glass, Earthen and Stoneware.
- Class 13.* Manufactures of Silk, Cotton, Flax and Wool.
- Class 14.* Clothing and Furnishing Goods, Hats, Caps and Furs.
- Class 15.* Marine Articles.
- Class 16.* Chemicals, Paints, Oils, Soaps and Candles.
- Class 17.* Flour and Cured Meats.
- Class 18.* Pianos, Organs and Musical Instruments.
- Class 19.* Fine Arts, Penmanship, Engraving and Lithographing.
- Class 20.* Books, Printing and Binding.
- Class 21.* Ladies' Department.
- Class 22.* Confections, Preserves and Wines.
- Class 23.* Fancy Merchandise.
- Class 24.* Miscellaneous Articles not included in any of the foregoing Classes.

FORM OF APPLICATION FOR SPACE.

AMOUNT OF SPACE.

STATE WHETHER WALL, FLOOR OR COUNTER, OR IF POWER WILL BE REQUIRED.

WHAT KIND OF ARTICLES.

.....1870,

To the Committee on

"CINCINNATI INDUSTRIAL EXPOSITION."

GENTLEMEN—Please allot space as above form for your Exposition, and oblige yours, etc.,

Depositor's Name

Residence

CIRCULAR

*To General Freight Agents, to General Ticket Agents, to Hotel and
Boarding House Proprietors.*

CINCINNATI, July 1st, 1870.

TO GENERAL FREIGHT AGENTS.

GENTLEMEN: The undersigned Committee on Conveyance, Transportation and Entertainment, would respectfully request that General Freight Agents would advise us, at their earliest opportunity, upon what terms they will transport articles intended for the great Exposition, upon their being delivered at stations upon the line of their respective routes, and marked Cincinnati Industrial Exposition.

We hope that you will make your terms as liberal as possible, and thus contribute to the success of an enterprise which, it is believed, will be productive of good results to all the interests to be represented in the Exposition.

Please answer promptly, and address your reply to

CINCINNATI INDUSTRIAL EXPOSITION, CINCINNATI.

TO GENERAL TICKET AGENTS.

GENTLEMEN: The undersigned Committee on Conveyance, Transportation and Entertainment, would respectfully request of General Ticket Agents, throughout the country, upon what terms they will carry visitors to and from Cincinnati during the continuance of the Exposition.

For full information as to the magnitude and importance of

the Exposition, we invite your attention to the accompanying Rules, Regulations, etc.

We hope you will view this subject in a liberal spirit, and give your very lowest rates.

Please answer promptly, and address your reply to

CINCINNATI INDUSTRIAL EXPOSITION, CINCINNATI.

TO HOTEL AND BOARDING HOUSE PROPRIETORS.

GENTLEMEN: The undersigned Committee on Conveyance, Transportation and Entertainment, would respectfully request you to state at what price per day you will furnish visitors with board and lodging, and also your price per meal for single meals.

You will please give your particular location, and pledge yourself that in no event will you ask or demand any greater price for board and lodging by day or single meal, during the continuance of the Exposition, than that named in your reply to this circular.

The Committee will not publish in its lists of Hotels and Boarding Houses the name of any house, the proprietor of which declines to make this pledge.

The Committee reserve the right to withhold the name and location of any Hotel or Boarding House which may, in their opinion, be unsuited to the purposes contemplated in this arrangement.

Please answer promptly, and address your reply to

CINCINNATI INDUSTRIAL EXPOSITION, CINCINNATI.

The Committee will, as soon as it obtains the necessary information, fully advertise to the public the terms upon which articles intended for the Exposition will be transported by the various routes; also, the terms upon which visitors attending the Exposition will be conveyed to and from the same; and,

also, a complete list of the Hotels and Boarding Houses of Cincinnati, together with prices which will be charged by the same respectively, during the continuance of the Exposition.

Committee on Conveyance, Transportation and Entertainment.

S. F. COVINGTON, CHAIRMAN.

H. W. BROWN, Agent Star Union Line.

L. DEVENNEY, General Freight Agent C. H. & D. R. R.

E. F. FULLER, General Agent Little Miami Railroad.

W. E. LUDLOW, Agent L. C. & L. Railroad.

JAS. A. WISE, Sup't. Cincinnati & Nashville, and Cincinnati & New Orleans Packet Co.

E. P. WILSON, General Freight Agent L. C. & I. R. R.

J. H. RHODES, Superintendent Adams Express Company.

SAMUEL STEVENSON, General Ticket Agent C. H. & D. and D. & M. R. R.

FREIGHTS ON ARTICLES EXHIBITED

AT THE EXPOSITION.

Cincinnati Industrial Exposition of Manufactures, Products and Arts—Open to Receive Goods, September 1st. Open to the Public, September 21st, 1870.

The following Railroad Companies have agreed to charge regular rates of freight (to be prepaid at point of shipment) on articles shipped to the Industrial Exposition to be held in Cincinnati, commencing September 21, 1870; and will return the same to the point of shipment, *free of charge*, on presentation of the proper certificate that such articles were exhibited and not sold:

Cincinnati, Hamilton & Dayton Railroad, Dayton & Michigan Railroad, Cincinnati, Richmond & Chicago Railroad, Lafayette Devenny, General Freight Agent.

Little Miami Railroad, Pittsburg, Cincinnati & St. Louis Railroad, E. F. Fuller, General Agent.

Louisville, Cincinnati & Lexington Railroad, E. P. Wilson, General Freight Agent.

Marietta & Cincinnati Railroad, R. M. Frazer, General Freight Agent.

Indianapolis, Cincinnati & Lafayette Railroad, Henry J. Page, General Freight Agent.

Cincinnati & Indianapolis Junction Railroad, James A. Semple, General Freight Agent.

Cincinnati & Muskingum Valley Railroad, C. H. Abbot, General Freight Agent.

Memphis & Charleston Railroad. Shipping receipt filed with the Board in Cincinnati, and goods returned before November 1, 1870, J. C. Lopez, General Freight Agent.

Pennsylvania Railroad and Erie Railroad, to Pittsburg and Erie, S. B. Kingston, General Freight Agent.

Nashville & Chattanooga and Nashville & North-Western Railways, and Hickman & Charleston Fast Freight Green Line, C. W. Anderson, General Freight Agent.

North Missouri Railroad, to St. Louis, H. C. Nicker, General Freight Agent.

Milwaukee & St. Paul Railway, to Milwaukee, O. E. Britt, General Freight Agent.

Baltimore & Ohio Railroad, conditioned that articles returned be shipped from Cincinnati prior to the 25th of October. This arrangement to apply from Baltimore, Washington, and all stations of our main line and branches to the route either *via*. Parkersburg or Wheeling; to the Central Ohio Division from Wheeling to Columbus, and to the Lake Erie Division from Newark to Sandusky, G. R. Blanchard, General Freight Agent.

Indianapolis & St. Louis Railroad, John C. Noyes, General Freight Agent.

Cincinnati, Sandusky & Cleveland Railroad, J. C. Buxton, General Freight Agent.

Selma, Rome & Dalton Railroad, Edgar Vliet, General Freight Agent.

Jeffersonville, Madison & Indianapolis Railroad, H. C. Hinman, General Freight Agent.

Memphis & Louisville and Louisville & Nashville Railroads, W. H. Smith, General Freight Agent.

St. Louis, Vandalia & Terre Haute and Terre Haute & Indianapolis Railroads, H. W. Hibbard, General Freight Agent.

Montgomery & West Point Railroad, G. F. Foreacre, Superintendent.

The Burlington & Missouri River Railroad Company will transport articles to the Exposition, free. William B. Strong, Assistant General Superintendent.

Union Pacific Railroad Company will carry from San Francisco, and points on the C. P. & U. P. Railroads, to Omaha at sixty per cent. of tariff rates. Return free on proper certificates. William Martin, General Freight Agent.

Chicago, Burlington & Quincy Railroad will charge regular freight from any point on its road to Chicago. Upon the return of the article, and a certificate that it was on exhibition and not sold, the money will be refunded. E. R. Wadsworth, General Freight Agent.

HOTELS AND RESTAURANTS.

Cincinnati Industrial Exposition—Open to the Public, Wednesday, September 21st, 1870.

The Proprietors of the following Hotels and Restaurants have pledged themselves to the Committee that they will only charge the prices attached to their names, during the continuance of the Exposition :

HOTELS.

Burnet House, N. W. corner Third and Vine sts., A. C. Joslin & Co., Proprietors. Per day \$4, breakfast \$1, dinner \$1 25, tea \$1.

Walnut Street House, Walnut, bet. Sixth and Seventh sts. Davis & Tucker, Proprietors. Per day \$3, per meal 75 cents.

Carlisle House, N. W. cor. Sixth and Mound sts., Henry S. Mower, Proprietor. Per day \$3, lodging \$1, per meal 75 cents.

Merchants' Hotel, Fifth, bet. Main and Sycamore sts., Henry Bruce & Co., Proprietors. Per day \$3, lodging \$1, per meal 75 cents.

Gibson House, Walnut, bet. Fourth and Fifth sts., Sinks, Corre & Co., Proprietors. Per day \$3, per meal 75 cents.

St. James Hotel, Fourth, bet. Main and Sycamore sts., J. McGrath, Proprietor. Per day \$3, lodging \$1, meals 75 cents.

Spencer House, cor. Front and Broadway sts., S. Johnson, Superintendent. Per day \$2 50, meals 75 cents each, lodging \$1.

Metropolitan Hotel, Main, near Front st., Mrs. R. Thurston, Proprietor. Per day \$2, meals 50 cents, lodging 75 cents.

Broadway Hotel, S. E. cor. Second and Broadway sts., Henderson & Phillips, Proprietors. Per day \$2, meal 50 cents.

Hummel House, Main and Canal sts., Mrs. A. Hummel, Proprietor. Per day \$2, per meal 50 cents.

Henrie House, Third, bet. Main and Sycamore sts., James Watson, Proprietor. Per day \$1 50, per meal 50 cents.

Lindell Hotel, S. W. cor. Sixth & Walnut sts., P. Lodwick, Proprietor. Per day \$1 50, lodging 75 cents, per meal 40 cents.

Brighton House, head of Central Avenue, Stephen Reed, Proprietor. Per day \$1 50.

Germania House, 89 and 91 Sycamore st., Fred. Wolf, Proprietor. Per day \$1 50, board per day \$1, lodging 75 cents, single meals 40 cents.

Hammel House, Ninth and Sycamore sts., W. W. Wikoff, Proprietor. Per day \$1 50, per meal 50 cents.

Galt House, S. W. cor. Sixth and Main sts., George Weber, Proprietor. Per day \$1 50, meal 50 cents, 15 meal tickets for \$5, lodging 75 cents.

Rowe House, west side Sycamore, bet. Fifth and Sixth sts., Mrs. Rowe, Proprietor. Per day \$1 50, board per day \$1, lodging 75 cents, meal 40 cents.

Oberly House, 60 Broadway, Victor Oberly, Proprietor. Per day \$1 25, per meal 40 cents.

Schiller House, Court and Elm sts., Gustavus Schiller, Proprietor. Per day \$1 25, dinner 50 cents, breakfast or supper 35 cents.

Heyl House, cor. Sixth and Elm sts., V. Heyl, Proprietor. Per day \$1 25, per meal 40 cents.

Indiana House, Fifth, bet. Race and Elm sts., Gideon Ryman, Proprietor. Per day \$1 50, lodging and meal 80 cents, two meals 80 cents, dinner 50 cents, lodging 50 cents, two meals and lodging \$1 20.

Teutonia House, 15 and 17 east Ninth st., Joseph Paul, Proprietor. Meal 50 cents, lodging 75 cents.

Bevis House, S. E. cor. Court and Walnut sts., Rothenhoffer & Lell, Proprietors. Per day, board and lodging, \$1 25, meal 40 cents, lodging 50 cents.

Commercial House, S. E. cor. Third and Broadway sts., Fuller & Gibson, Proprietors. Per week \$7, meal 50 cents, lodging 50 cents.

Evans House, S. W. cor. Broadway and Pearl sts., Mrs. A. Midgely, Proprietor. Per week \$6, meal 30 cents, lodging 50 cents.

RESTAURANTS.

Fountain Restaurant, 214 Vine st., Henry Reibel, Proprietor. Per day \$2 without lodging, meal 75 cents.

Hunt's Dining Rooms, 179½ and 181 Vine st., C. B. Hunt & Co., Proprietors. Dinner 40 cents, and *a la carte*.

Shades Dining Saloon, 27 and 29 W. Third st., G. C. Petzsch, Proprietor. Day board per week \$6, 15 meal tickets \$5, single meal 40 cents.

Washington Dining Saloon, 259 and 261 W. Sixth st., Harding & Spraul, Proprietors. Dinner 40 cents, other meals, *a la carte*.

Buckeye Dining Saloon, 170 Vine st., McDonnell & McMullen, Proprietors. \$6 worth of tickets for \$5, dinner 40 cents.

European Restaurant, 172 Elm st., Lee & America, Proprietors. Meal 50 cents.

Merchants' Lunch Rooms, 99 W. Third st., Lew. Bowman, Proprietor. *A la carte.*

St. Nicholas Restaurant, S. E. cor. Fourth and Race sts., B. Roth & Sons, Proprietors. *A la carte.*

Merchants' Restaurant, 168 Race st., Jacob Phillip, Proprietor. *A la carte.*

Schultz's Restaurant, 151 W. Fourth st., Louis Schultz, Proprietor. Lodging, \$1, meals *a la carte.*

Leininger's Dining Saloon, 81 W. Fourth st., Charles Leininger, Proprietor. Meals *a la carte.*

DeBolt Exchange, S. E. cor. Court and Main sts., J. C. Flach, Proprietor. Dinner 50 cents, or *a la carte*, other meals *a la carte.*

St. George, N. W. cor. Ninth and Vine sts., George P. Orr, Proprietor. Per day \$2 50, Dinner 50 cents, breakfast 75 cents, tea 75 cents, lodging \$1.

Central Restaurant, 216 Vine st., John G. Trinkner, Proprietor, \$6 worth of tickets for \$5, dinner 40 cents, 15 dinner tickets for \$5.

PRIZE DESIGN FOR DIPLOMA.

CINCINNATI INDUSTRIAL EXPOSITION.

The Committee on Awards and Diplomas solicits from Artists, Lithographers, etc., DESIGNS FOR A DIPLOMA to be used for the Grand Industrial Exposition this fall.

We offer the following liberal prizes for the first and second best designs, the merits to be determined by the Committee:

For the best Design a Grand Gold Medal;

For the second best Design Fifty Dollars—cash.

The design to be eighteen inches by twenty-four inches in the clear, and to be sent in by July 12th.

For full information, address

THOMAS GILPIN, CHAIRMAN,

H. McCOLLUM,

JOHN B. HEICH,

Committee on Awards and Diplomas.

REPORT ON PRIZE DESIGN FOR DIPLOMA.

CINCINNATI, JULY 19, 1870.

To the General Committee of the Cincinnati Industrial Exposition:

GENTLEMEN: The Committee on Diplomas and Awards would submit the following report:

As per instructions of the General Committee, we advertised for designs for the prize diploma, and also sent a descriptive circular (as per

annexed form) to the principal artists, engravers, lithographers, etc., in Cincinnati, St. Louis, Detroit, Cleveland, Buffalo, Boston, New York, Philadelphia, Baltimore, Pittsburg, etc., and we are indeed surprised that we have only received six designs, and which we have placed in the following order of merit, viz.:

1. A. L. Helm, Supt. American Bank Note Co..Cincinnati.
2. Henry Mosler.....“
3. Duval & Hunter.....Philadelphia.
4. Strobridge & Co.....Cincinnati.
5. E. Ketterlinus.....Philadelphia.
6. W. W. Woodward.....Greensburg, Ind.

Your committee, after a full and considerate examination, are unanimous in awarding the best design to A. L. Helm, Superintendent of the American Bank Note Company, and second best design to Henry Mosler, of Cincinnati.

While making these awards, we do not wish to deteriorate from the excellence of some of the other designs, which were in many respects very meritorious.

The usual designs that have for so many years been adopted at exhibitions, and at state and county fairs, almost stereotyped one from the other, generally containing the same divisions of figures as to art, science, agriculture, and mechanics, with a few tools and implements thrown around and at the feet of the figures.

The principal design adopted by your committee branches clearly out into a new field, which we think is bold in conception, and sufficiently emblematical in its details to illustrate the principal divisions of industry.

It represents, in spirited vignettes, wood, iron, coal, glass, stone, cotton, leather, and the products of the soil generally, and indicated by the many trades covered by the same. The characters conveyed by subjects of peace, history, science, art, liberty, light, abundance, etc., by their beauty of arrangement, and excellence of execution, commends the design for its combined appropriateness.

We have conferred with many, who inform us that many diplomas and certificates issued at fairs, etc., are, from their mediocrity and poor-ness of execution, frequently not even framed, and seldom placed in prominent locations.

We unanimously recommend that this design be prepared in steel, and executed in the very highest style of the art, so that, when awarded and exhibited, that it will be creditable to the city and to the institution making the award.

We have the offer of the designer, A. L. Helm, that their company will execute the design in colors, and furnish the steel plates, with two hundred impressions, for \$1,200, and a charge of \$1 each for all additional impressions, and which is fully \$1,000 less than their usual price for such work.

We find that the design of Henry Mosler, lithographed in colors, for five hundred impressions, will cost \$400.

We think, considering the great excellence and the decided superiority of a steel engraving, with its delicacy of execution, is entirely preferable in this case to a lithograph, and even at the increased expense, all things considered, that we are perfectly justified in making the recommendation.

From its beauty and execution, we feel assured that there will be a sufficient demand for duplicates and certificates, at \$5 each, to cover the additional cost of its production.

Respectfully submitted,

THOS. GILPIN,
JOHN B. HEICH,
H. McCOLLUM,

Committee on Diplomas and Awards.

The above report was adopted, the first award of a Grand Gold Medal being made to A. L. Helm, Superintendent of the American Bank Note Co., Cincinnati, who executed the design in steel. The second award of Fifty Dollars, cash, was made to Henry Mosler, of Cincinnati.

JUDGES' APPOINTMENT.

CINCINNATI INDUSTRIAL EXPOSITION OF MANUFACTURES,
PRODUCTS, AND ARTS.

OFFICE OF THE EXPOSITION,

Cincinnati, 1870.

DEAR SIR: You have been selected, and are requested to act
as, Judge on Class No. Section No.

of articles deposited at the "Cincinnati Industrial Exposition,"
which was opened to the public September 21.

Your colleague will be appointed in accordance with the
6th Rule of the General Rules and Regulations, as follows:

RULE 6. It is provided that the Judges in each class shall be wholly
disinterested; that they shall be composed of men eminent for their
skill in the arts, and particularly in reference to the class of articles as-
signed to them, and that they shall be appointed on or after the day of
Public Opening, in the following manner: One by the General Com-
mittee; one by the exhibitors in the respective class, and a third by the
two thus appointed.

When the said second Judge is appointed, you will be duly
notified from this office, at which time you will also be fur-
nished with the Special Rules governing you in your examina-
tions and decisions.

Whether you accept this appointment or not, it is desired that you should immediately notify me of the same by mail or otherwise, in order that the Committee may have ample time to fill any resignation that may be made.

For further information apply at the office in the "Exposition" Building.

Respectfully Yours,

JOHN B. HEICH, SUPERINTENDENT.

By order of the Committee on Judges.

JAMES DALE,
S. HANNAFORD,
JOHN B. HEICH, } Committee on Judges.

INSTRUCTIONS TO EXHIBITORS.

CINCINNATI INDUSTRIAL EXPOSITION.

OFFICE OF THE EXPOSITION,

Cincinnati, 1870.

DEAR SIR: You, as an Exhibitor, No., Class,
Section, are hereby notified that, in accordance with
the 6th Rule of the General Rules and Regulations governing
the Exposition, it becomes your imperative duty to appoint
the "Second Judge," viz.:

RULE 6. It is provided that the Judges in each Class shall be wholly
disinterested; that they shall be composed of men eminent for their
skill in the arts, and particularly in reference to the class of articles
assigned to them, and that they shall be appointed on or after the day
of Public Opening in the following manner: One by the General Com-
mittee, one by the exhibitors in the respective class, and a third by the
two thus appointed."

You are further notified to attend a meeting of all the Ex-
hibitors in your Class on.....

promptly, in the "Committee Room" in the Exposition for
the purpose of appointing said Second Judge.

In order to facilitate the business of the Exposition, said
Judge must positively be appointed at the said time and place.

The meeting thus convened of the Exhibitors, without ref-
erence to what number may be present, will be empowered to
proceed at once and elect the said Judge, and such action shall

be final, and shall not be annulled by the balance of the Exhibitors failing to be present at that time.

We desire to call your attention to the fact, that the responsibility of having the articles in "your Class examined," and "Premiums awarded upon the same," depends upon the full complement of Judges being appointed.

Any information that you may desire explanatory of the above, or otherwise, in reference to the Exposition, will be given cheerfully upon application at this office.

Yours respectfully,

JOHN B. HEICH, SUPERINTENDENT.

By order of the Committee on Judges.

JAMES DALE, S. HANNAFORD, JOHN B. HEICH,	}	Committee on Judges.
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INSTRUCTIONS TO JUDGES.

CINCINNATI INDUSTRIAL EXPOSITION.

OFFICE OF THE EXPOSITION,

Cincinnati, 1870.

DEAR SIR: You having accepted the position of Judge on Class No., Section No., in the Classification of Articles deposited at the "Cincinnati Industrial Exposition," I take pleasure in transmitting to you the following instructions:

The Exposition was duly opened to the public on Wednesday, September 21st. The Catalogues will be ready for you on Monday, October 3d, and you are particularly requested to avail yourselves of every opportunity, both before and after that time, to examine into the merits of the articles belonging to your Class, so that you may be able to make a report of your conclusions to the General Committee on Awards by Monday, October 10th, at the furthest, in order that the awards may be announced on the 15th day of October, the day fixed for the closing of the Exposition.

Your attention is particularly called to the printed Rules and Regulations, and more especially to the 6th, 7th, 11th, and 12th Rules, which you will please observe in your examinations and decisions.

It does not lie within your province what the Premiums are to be (whether medals, diplomas, etc.), but, after due examination, to report what articles in your Classes are of the "first, second, or third degree of merit," accompanying your report with such information as may present itself, by ob-

serving the following instructions, selected from the Rules, viz.:

Machines, and other articles exhibited for Premium, will be subjected to thorough practical tests to determine their efficiency, economy, or other alleged merits. And in this respect it is the purpose of the General Committee to conduct the Exposition with exact and inflexible justice, and in such a manner that its action, in every case, will command the confidence of the public, while its premiums or commendations will be made of permanent and substantial value to those who receive its awards.

Judges will be instructed to make full and complete reports of all tests and all methods employed in determining the merits of the articles examined by them, with the result of the same in detail; and they will be moreover instructed to include in their reports, for publication in the General Report, such commendatory notices, or "honorable mention" of articles not awarded a premium as they may find entitled to such notice. They will also be instructed to notice in a similar manner articles entered for exhibition only, when found to be eminently meritorious.

In making your decisions and awards it will be necessary, however, for you to exercise a due discretion in regard to articles which, "although the best in their Class," are, "from inferiority of design or workmanship, unworthy of the first, or it may be of any, degree of award," for it is the aim of this Exposition to stimulate to excellence, rewarding merit only. Should there be articles without competition, you will carefully examine and report the degree of merit you may find them to intrinsically possess.

Each morning from 8 to 10 o'clock will be set apart for the purposes of the Judges, during which time no others will be admitted to the building, and it is requested that they will avail themselves of this time for their examinations.

It is expected that they will not permit any interference in their examinations or conclusions by interested parties or others, except as is expressly provided in the 12th Rule.

Your colleague is

and you are requested to appoint immediately the third Judge in accordance with the 6th Rule, and to proceed at once with your examinations.

Any information that you may wish in the furtherance of your duties, will be furnished at any time on application at the office.

By presenting this circular at the door, you will be admitted at all hours until the close of the Exposition. It is, however, not transferable.

Yours, very respectfully,

JOHN B. HEICH, SUPERINTENDENT.

By order of the Committee on Judges.

JAMES DALE,
S. HANNAFORD,
JOHN B. HEICH, } Committee on Judges.

NOTICE TO JUDGES.

CINCINNATI INDUSTRIAL EXPOSITION.

OFFICE OF THE EXPOSITION,

Cincinnati, October 1870,

You are hereby respectfully requested to attend a meeting of the Judges on Class No., Section No. of articles deposited in the Exposition on morning, October, at 8 o'clock, punctually, in the Exposition Building. You will please report at this office.

Your colleagues are and

It is hoped that every Judge will be present, in order that they may be enabled to make their Reports at the earliest moment, so as to give the General Committee on Awards ample time to perform their duties, and announce the Premiums at the advertised time.

Yours, very respectfully,

JOHN B. HEICH, SUPERINTENDENT.

TEXTILE FABRICS.

CINCINNATI INDUSTRIAL EXPOSITION OF MANUFACTURES,
PRODUCTS, AND ARTS.

OFFICE OF THE EXPOSITION, }
COR. ELM AND 14TH STS. }

Cincinnati, September 1st, 1870.

GENTS : Our Exposition will open to the public on the 21st of this month, and continue open until October 15th. Every department is fully represented except the Textile, filling all the space allowed to each. The Textile Fabrics have not responded as fully as we could wish for. We have made ample accommodations for creditably displaying your goods, whether present in person or not, and can safely say it will be the largest display of Manufactures, Products, and Arts ever made in the West or South. We therefore urge you to forward at once samples of your products, especially Mills that contributed last year, that the Woolen, Cotton, and Flax Manufactures of the West and South may be equal to the other departments of our Exposition.

JAMES H. LAWS,
C. H. GOULD,
JACOB ELSAS,
GEO. W. JONES,
JEDEDIAH HEBERD,
Committee on Textile Fabrics.

SPACE COMMITTEE'S CIRCULAR.

OFFICE CINCINNATI INDUSTRIAL EXPOSITION,

Cincinnati, September 1, 1870.

You are requested to send to the Space Committee, immediately, a plat of your Machinery, and the space required, with exact size of each Machine, and distance between them, if more than one.

Your early attention is important.

A hasty pencil diagram will be sufficient, provided it is exact in figures.

Address,

SPACE COMMITTEE,

Cincinnati Industrial Exposition.

W. H. BLYMYER,	}	Committee.
G. W. McALPIN,		
L. R. HULL,		

EXHIBITORS, ADVERTISE,

AND

INSURE CROWDED HALLS.

CINCINNATI INDUSTRIAL EXPOSITION OF MANUFACTURES,
PRODUCTS, AND ARTS.

OFFICE OF THE EXPOSITION.

DEAR SIR: You, as an Exhibitor, are notified of the great importance of keeping the Exposition prominently and constantly before the public until its close,

It is suggested that every Exhibitor advertise (if only briefly), calling attention to that part of the Exposition where their goods may be seen. This is the universal custom with all European exhibitions, and which tends in a great degree to their immense attendance.

During their fairs, from three to four pages of their local newspapers are filled with exhibitors' advertisement, thus keeping the subject before the public.

The magnitude of the "Cincinnati Industrial Exposition" should insure from our Exhibitors from two to four pages of advertising, continuously, in all our daily newspapers.

If this plan is generally adopted, an immense attendance will, without doubt, be insured, and no Exhibitor will have cause to regret the investment.

Respectfully yours,

JOHN B. HEICH, SUPERINTENDENT.

NOTICE TO EXHIBITORS.

To facilitate the "Office Business," Exhibitors will please notice the following Special Regulations:

1. Determine from the printed classification, the Class in which you desire your goods to be entered.
2. Notice the instructions on the Entry Ticket.
3. Notice the instructions on the Receipt Ticket.
4. Leave your business address with the Entry Clerk.
5. Exhibitors from a distance will leave their Cincinnati address with their Entry Clerk, in order that mailed notices, etc., may reach them without delay.
6. It is important to notice particularly all the provisions of the "Instructions to Exhibitors" in relation to the Judges and the Awards of Premiums.
7. Exhibitors with badges and employees, will enter the Exposition at a special door, on the north side of the main building.
8. Particular attention is invited to the General Rules and Regulations, and especially to the 4th, 5th, and 6th Rules.
9. To save time in answering numerous questions, Exhibitors are informed that the number and quality of the Premiums and Awards will be exceedingly liberal, and will be awarded in accordance with the special merit of the article exhibited, see Rule 11.
10. Unless particularly stated by the Exhibitor when making the entry, that the article is for "exhibition only," all articles will be considered as being entered for competition and Premium.
11. Exhibitors will notice the "Bulletin Board," from time to time, for new information.
12. Any information desired will be given cheerfully, but Exhibitors and others are requested to be as brief as possible when occupying the time of the Clerks.

JOHN B. HEICH, SUPERINTENDENT.

INAUGURATION INVITATION.

CINCINNATI INDUSTRIAL EXPOSITION OF MANUFACTURES,
PRODUCTS, AND ARTS.

OFFICE OF THE EXPOSITION.

DEAR SIR: You are particularly invited to be present and participate in the Opening Ceremonies, Wednesday evening, September 21st, at eight o'clock.

H. McCULLOM,
THOS. GIBSON,
JOHN B. HEICH, } Committee.

DUPLICATE DIPLOMAS.

CINCINNATI INDUSTRIAL EXPOSITION.

OFFICE OF THE EXPOSITION,

Ohio Mechanics' Institute.

The Diploma that has been issued by the Exposition is conceded to be superior, in point of execution and beauty, to any that has been awarded in this or any country.

This Certificate of Award has received the unqualified admiration of all who have seen it, as a *great work of art*. It is executed in the very highest style of steel engraving, and for appropriateness of design and perfection of workmanship has not been equaled.

To supply an unanimous desire upon the part of all who have examined it, the Committee have determined to furnish (to those who have received it as an award) "*duplicates*," which will be "fac-similes" of the original.

This will, without doubt, be highly appreciated by Exhibitors who desire extra copies for their business houses, their residences, or to supply to their agencies in different sections of the country.

Duplicate Diplomas, \$5 each.

JOHN B. HEICH, SUPERINTENDENT.

MEDAL CERTIFICATES.

CINCINNATI INDUSTRIAL EXPOSITION.

OFFICE OF THE EXPOSITION,

Ohio Mechanics' Institute.

The Committee have determined to issue Certificates to those to whom Medals were awarded at the late Exposition, certifying to the same, which will be appropriately filled. For example:

CINCINNATI
INDUSTRIAL EXPOSITION.

FIRST PREMIUM

AWARDED TO

GEORGE WASHINGTON,

A

SILVER MEDAL,

FOR

STEAM FIRE ENGINES.

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JOHN B. HEICH, SUPERINTENDENT.

CATALOGUE OF ARTICLES.

CATALOGUE OF ARTICLES

DEPOSITED AT THE

Cincinnati Industrial Exposition,

HELD IN CINCINNATI FROM SEPTEMBER 21 TO OCTOBER 22, 1870.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited,
1	1	1	Samuel Van Emon.....	Cincinnati, O.....	Double Cylinder Reversible Steam Engine.
2	1	6	Hoosier Drill Co.....	Milton, Ind.....	Two-horse Grain Drill with Fertilizing Attachment.
3	1	6	Hoosier Drill Co.....	"	Two-horse Grain Drill.
4	1	6	Hoosier Drill Co.....	"	One-horse Drill.
5	1	4	Chas. S. & S. Burt.....	Dunleith, Ill.....	Shingle Sawing Machine (hand feed). [bined).
6	1	4	Chas. S. & S. Burt	"	Shingle Heading Sawing Machine (hand and self feed com-
7	1	4	Chas. S. & S. Burt.....	"	Shingle Press and Buncher.
8	1	1	Cope & Co.....	Cincinnati, O.....	Steam Pump.
9	1	1	Cope & Co	"	Steam Boiler Feeder.
10	1	1	Cope & Co	"	Patent Combined Well Pump and Boiler Feeder.
11	1	6	John Dodds & Co.....	Dayton, O.....	Wheel Horse Rake.
12	1	9	Daniel Smallwood.....	Middletown, O.....	Double Revolving Washing Machine.
14	1	9	Silver & Deming.....	Salem, O.....	Silver's Patent Meat Chopping Machine.
15	1	4	Silver & Deming.....	"	Silver's Hub Boring Machine.
16	1	6	Ætna Manufacturing Co.....	"	Combined Mower and Reaper.
17	1	1	Sharps, Davis & Bonsall....	"	Portable Printing Office Engine.
18	1	4	Sharps, Davis & Bonsall.....	"	Shingle and Heading Machine.
19	1	6	A. J. Ohmer.....	Hamilton, O.....	Ohmer's Trimming Lawn Mower.

20	1	5	Blackburn, Haines & Co.....	West Liberty, O.....	Improvement on Power Loom.
21	1	9	Fish & Black	Madisonville, O.....	Camp's Magic Washing Machine.
22	1	1	P. Eby.....	Buffalo, N. Y.....	Improvement in Boiler Furnaces.
23	1	9	Louis Harmyer.....	Cincinnati, O.....	Tobacco Packing Machine.
24	1	9	Louis Harmyer.....	"	Patent Tobacco Flavoring Machine.
25	1	6	Mansfield Machine Works.....	Mansfield, O.....	Mansfield Mower.
26	1	6	Mansfield Machine Works.....	"	Mansfield Combined Reaper and Mower.
27	1	1	C. A. Conde & Co.....	Indianapolis, Ind...	Conde's American Governor.
28	1	3	H. Bates & Son	Dayton, O.....	Bates' Patent Self Feed Upright Hand Drill.
29	1	2	Barnett, Herrman & Co.....	Springfield, O.....	Thomas Leffel's Improved Turbine Water Wheel.
30	1	3	J. T. Hyndman.....	Cincinnati, O.....	Blacksmith's Bellows.
31	1	9	Buckeye Washing Machine Co....	Wilmingon, O.....	Buckeye Washing Machine.
32	1	9	F. L. King.....	Boston, Mass.....	Model of a Machine for Dressing Stone.
33	1	9	Northampton Hand Pegging Machine Co.....	Northampton, Mass.	Northampton Hand Pegging Machine.
34	1	9	Northampton Hand Pegging Machine Co.....	Northampton, Mass.	Skiving Machine.
35	1	9	H. Rulison.....	Cincinnati, O.....	Short's Patent Shaft Coupling and Hanger.
36	1	2	Stilwell, Bierce & Co.....	Dayton, O.....	Eclipse Double Turbine Water Wheel.
37	1	1	Stilwell, Bierce & Co.....	"	Lime Extracting Heater and Filter Combined.
38	1	8	A. Pritz & Sons.....	"	Jones' Smut Machine and Grain Separator.
39	1	6	A. Pritz & Sons.....	"	Dorsey's Self Raking Reaper and Mower Combined.
40	1	6	A. Pritz & Sons.....	"	Strayer's Force Feed Grain Drill.
41	1	9	A. Pritz & Sons.....	"	Dr. N. E. Leaman's Automatic Car Coupling.
42	1	2	McGowan Bros. Pump and Machine Co.....	Cincinnati, O.....	T. J. McGowan's Patent Buckeye Hand Double Acting Lift Force and Power Pump.
43	1	2	McGowan Bros. Pump and Machine Co.....	"	T. J. McGowan's Patent McGowan Double Acting Force and Lift Hand and Power Pump.
44	1	2	McGowan Bros. Pump and Machine Co.....	"	McGowan's Patent Vacuum and Pressure Air Pump.
45	1	1	McGowan Bros. Pump and Machine Co.....	"	T. J. McGowan's Patent Direct Acting Crank Double Acting Force and Lift Steam Pump.
46	1	6	Bode & Binder.....	"	Sod Plows.
47	1	6	Bode & Binder.....	"	All Purpose Plows.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
48	1	6	Bode & Binder.....	Cincinnati, O.....	Corn Plows.
49	1	2	Zerbe, Perine & Co.....	".....	Water Wheel.
50	1	5	Zerbe, Perine & Co.....	".....	Attachment for a Loom.
51	1	6	Zerbe, Perine & Co.....	".....	Hay Rake.
52	1	6	Zerbe, Perine & Co.....	".....	Hay Fork.
53	1	4	Long, Joseph & Carter.....	Indianapolis, Ind.....	Staley Head Block.
54	1	1	Long, Joseph & Carter.....	".....	Steam Governor.
55	1	9	Reinshagen & Buckman.....	Cincinnati, O.....	Improved Device on Pulleys.
56	1	6	E. Ball & Co.....	Canton, O.....	One World Mower.
57	1	1	Griffith & Wedge.....	Zanesville, O.....	One Portable Engine.
58	1	6	Samuel Males.....	Cincinnati, O.....	Two American Wine and Cider Mills.
59	1	9	J. G. McCormick.....	Louisville, Ky.....	Universal Machine Pulley.
60	1	9	Thomas & Robinson.....	Cincinnati, O.....	One Screw Press.
61	1	9	Thomas & Robinson.....	".....	One Drop Press.
62	1	2	Miles Greenwood.....	".....	Leffell's American Double Turbine Water Wheel.
63	1	2	Miles Greenwood.....	".....	Bryson's Turret Case Turbine Water Wheel.
64	1	9	Hoglen & Pease.....	Dayton, O.....	Pease's Tobacco Cutter.
65	1	9	Hoglen & Pease.....	".....	One Drum Elevator and Receiver.
66	1	1	E. H. Ashcroft.....	Boston, Mass.....	Steam Gauges.
67	1	1	E. H. Ashcroft.....	".....	One Ashcroft's Self-Testing Steam Gauge.
68	1	1	E. H. Ashcroft.....	".....	One Ashcroft's Nickel-Seated Safety Valve Lock-Up.
69	1	1	E. H. Ashcroft.....	".....	One Steam Fire Engine Nickel-Seated Safety Valve.
70	1	1	E. H. Ashcroft.....	".....	One Naylor's Annular Lip Safety Valve.
71	1	2	J. W. Harrington.....	Cincinnati, O.....	General Assortment of Pumps.
72	1	5	John R. Hoole & Sons.....	".....	One Patent Paper Cutter.
73	1	4	E. B. Jennings.....	Rochester, N. Y.....	Dobson's Deflecting Strain Scroll Saw.
74	1	8	James Bradford & Co.....	Cincinnati, O.....	One Portable Corn Mill.
75	1	8	James Bradford & Co.....	".....	One Portable Flouring Mill.
76	1	8	James Bradford & Co.....	".....	One Portable Bolting Chest.

77	1	6	Thomas Cottman.....	Cincinnati, O.....	Sod Plows.
78	1	6	Thomas Cottman.....	".....	General Use Plows.
79	1	6	Thomas Cottman.....	".....	Loose Ground Plows.
80	1	6	Thomas Cottman.....	".....	Corn Plows.
81	1	6	Thomas Cottman.....	".....	Subsoil Plows.
82	1	6	Thomas Cottman.....	".....	Hillside Plows.
83	1	6	Thomas Cottman.....	".....	Double Shovel Plow.
84	1	6	Thomas Cottman.....	".....	Cultivator.
85	1	4	McBeth, Shaffer & Co.....	Hamilton, O.....	Universal Woodworker with Sticker Attachment.
86	1	4	McBeth, Shaffer & Co.....	".....	Universal Woodworker with Boring and Routing Attachm't.
87	1	4	McBeth, Shaffer & Co.....	".....	One Wood Boring Machine.
88	1	8	Diamond Mill Manufacturing Co.	Cincinnati, O.....	Three Iron Grist Mills,
89	1	8	Diamond Mill Manufacturing Co.	".....	Cotton Seed Huller & Separator.
90	1	9	Wm. McKinney & Co.....	".....	One Shaft Coupling.
91	1	6	Champion Machine Co.....	Springfield, O.....	One No. 4 Single Mower.
92	1	9	George Decker.....	Cincinnati, O.....	Lamb's Patent Washing Machine and Wringer Combined.
93	1	9	Louis Fenstermacher.....	".....	A Machine for Manufacturing Binding.
94	1	6	Jacob Ritter.....	Seven Mile P. O., Butler Co., O.....	Fan Grain and Grass Seed Screen Combined.
95	1	1	Meredith & Co.....	Cincinnati, O.....	Improved American Anti-Incrustater.
96	1	2	S. Van Emon.....	".....	One Cistern Pump.
97	1	9	Reckless & Lawrence.....	Philadelphia, Penn.	National Washing Machine.
98	1	6	J. McKibben.....	Lima, O.....	Swarth Stick for Mower.
99	1	6	R. J. Ellis.....	Newport, Ky.....	Rustic Stand with Arch.
100	1	6	R. J. Ellis.....	".....	Rustic Fish and Flower Stand.
101	1	6	R. J. Ellis.....	".....	Rustic Hanging Baskets.
102	1	6	Ferrell, Ludlow & Rogers.....	Springfield, O.....	One Superior Grain Drill and Grass Seeder Combined.
103	1	6	Ferrell, Ludlow & Rogers.....	".....	Superior Grain Drill with Fertilizer Attachment.
104	1	4	Daniel Stanley.....	Cincinnati, O.....	One Band Saw.
105	1	4	Daniel Stanley.....	".....	One Chain Stretcher Machine.
106	1	4	A. Shearon.....	Richmond, Ind.....	One Set of Head Blocks.
107	1	1	Post & Co.....	Cincinnati, O.....	Steam Gauges.
108	1	3	Post & Co.....	".....	Engine Lathes.
109	1	3	Post & Co.....	".....	One Shaper.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
110	1	3	Post & Co.....	Cincinnati, O.....	One Planer.
111	1	3	Post & Co.....	".....	One Screw Machine.
112	1	3	Post & Co.....	".....	One Upright Drill.
113	1	3	Post & Co.....	".....	One Bolt Cutter.
114	1	3	Post & Co.....	".....	One Milling Machine.
115	1	3	Post & Co.....	".....	One Wrist Pin Lathe.
116	1	3	Post & Co.....	".....	Chucks, Tops, Reamers, and Lathe Dogs.
117	1	9	Post & Co.....	".....	One Switch Stand.
118	1	9	Post & Co.....	".....	Passenger and Freight Car Springs.
119	1	6	Waters & Barrett.....	".....	Churns.
120	1	9	A. C. Sine.....	".....	Consecutive Numbering Machine.
121	1	9	Northampton Emery Wheel Co...	Northampton, Mass.	Emery Wheels, Oil Stones, and Grinding Machines.
122	1	9	Gest & Atkinson.....	Cincinnati, O.....	Cast-Steel Railway Car Springs.
123	1	9	Thomas Bradford.....	".....	Prairie State Washing Machine.
124	1	3	Long, Black & Allstatter.....	Hamilton, O.....	Power Presses and Punches.
125	1	6	Long, Black & Allstatter.....	".....	Reaping Machine, Sickles, Mower, Knives, and Sections.
126	1	6	Long, Black & Allstatter.....	".....	One Mowing Machine.
127	1	6	Long, Black & Allstatter.....	".....	One Sulky Steel Tooth Horse Rake.
128	1	6	Long, Black & Allstatter.....	".....	One Straw and Fodder Cutter combined.
129	1	6	Long, Black & Allstatter.....	".....	One Straw Cutter.
130	1	6	Long, Black & Allstatter.....	".....	One Corn Husking Machine.
131	1	1	Warden, McClelland & Co.	Cincinnati, O.....	One Shive Steam Governor.
132	1	8	Isaac Straub & Co.....	".....	One Queen of the South Grist Mill, with Bolt Smutter and Packer.
133	1	7	American Button-Hole, Overseaming, and Sewing Machine Co....	".....	American Button-Hole and Overseaming Sewing Machine.
134	1	7	American Button-Hole, Overseaming, and Sewing Machine Co....	".....	Combined Button-Hole and Sewing Machines.
135	1	6	Charles P. Williams... ..	".....	One Derrick Stump Puller and Rock Extractor.
136	1	9	L. E. Fay	".....	Fay's Patent Tin Roofing Machine.

137	1	Lewis Wolffley .....	.....	Liquid Fuel Machine.
138	1	Richards, Kelley & Co. ....	.....	One Band Saw Machine.
139	1	James L. Haven & Co. ....	.....	One Routing Machine for Bedsteads.
140	1	James L. Haven & Co. ....	.....	Sturtevant's Fan Pressure Blower.
141	1	James L. Haven & Co. ....	.....	American Cider Mills.
142	1	James L. Haven & Co. ....	.....	Hand Straw Cutters.
143	1	James L. Haven & Co. ....	.....	Two Hand Corn Shellers.
144	1	James L. Haven & Co. ....	.....	One Sugar Mill.
145	1	James L. Haven & Co. ....	.....	Two Cane Mills.
146	1	James L. Haven & Co. ....	.....	Two Road Scrapers.
147	1	James L. Haven & Co. ....	.....	One Corn Mill.
148	1	G. C. Miller & Co. ....	.....	One No. 0 Cotton and Corn Plow.
149	1	G. C. Miller & Co. ....	.....	One No. 1 Cotton and Corn Plow.
150	1	G. C. Miller & Co. ....	.....	One No. 4 Stubble Plows, Right Hand.
151	1	G. C. Miller & Co. ....	.....	One No. 4 Medium Plows, Right Hand.
152	1	G. C. Miller & Co. ....	.....	One No. 4 General Purpose Plows, Right Hand.
153	1	G. C. Miller & Co. ....	.....	One No. 5 Stubble Plows, Right Hand.
154	1	G. C. Miller & Co. ....	.....	One No. 6 Stubble Plows, Right Hand.
155	1	G. C. Miller & Co. ....	.....	One No. 6 Medium Plows, Right Hand.
156	1	G. C. Miller & Co. ....	.....	One No. 6 General Purpose Plows, Right Hand.
157	1	G. C. Miller & Co. ....	.....	One No. 10 Sod Plows, Right Hand.
158	1	G. C. Miller & Co. ....	.....	One No. 4 General Purpose Plows, Right Hand.
159	1	G. C. Miller & Co. ....	.....	One No. 4 Stubble Plows, Left Hand.
160	1	G. C. Miller & Co. ....	.....	One No. 5 Stubble Plows, Left Hand.
161	1	G. C. Miller & Co. ....	.....	One No. 4 Medium Plows, Left Hand.
162	1	G. C. Miller & Co. ....	.....	One No. 5 General Purpose Plows, Left Hand.
163	1	G. C. Miller & Co. ....	.....	One No. 6 Medium Plows, Left Hand.
164	1	G. C. Miller & Co. ....	.....	One No. 6 General Purpose Plows, Left Hand.
165	1	G. C. Miller & Co. ....	.....	One No. 7 General Purpose Plows, Left Hand.
166	1	G. C. Miller & Co. ....	.....	One No. 10 Sod Plows, Left Hand.
167	1	G. C. Miller & Co. ....	.....	One No. 1 Hillside Plow, Right or Left Hand.
168	1	G. C. Miller & Co. ....	.....	One No. 2 Hillside Plows, Right or Left Hand.
169	1	G. C. Miller & Co. ....	.....	One Double Shovel Plow.
170	1	G. C. Miller & Co. ....	.....	One Single Shovel Plow.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
171	1	6	G. C. Miller & Co.....	Cincinnati, O.....	One Cultivator.
172	1	6	G. C. Miller & Co.....	".....	One Road Plow.
173	1	1	Post & Co.....	".....	Two Locomotive Head Lights.
174	1	1	Post & Co.....	".....	Steam Gauges.
175	1	6	J. Earnshaw.....	".....	One Buckeye Mower and Reaper.
176	1	6	J. Earnshaw.....	".....	Cast-Steel Plows.
177	1	6	J. Earnshaw.....	".....	Sandford Cutting Boxes.
178	1	6	J. Earnshaw.....	".....	Buckeye Cider Mills.
179	1	6	J. Earnshaw.....	".....	One Grain Drill (two-horse).
180	1	6	J. Earnshaw.....	".....	One One-horse Grain Drill.
181	1	6	J. Earnshaw.....	".....	Eagle Cutting Boxes.
182	1	6	J. Earnshaw.....	".....	One Rotating Harrow.
183	1	5	Greenwood Loom Co.....	".....	Mendenhall's Self-Acting Hand Loom.
184	1	9	J. G. Rockhill.....	Lebanon, O.....	One E Pluribus Unum Washing Machine.
185	1	3	C. L. English.....	Cincinnati, O.....	Bellows.
186	1	3	C. L. English.....	".....	Portable Forges.
187	1	3	C. L. English.....	".....	Tweel Irons.
188	1	6	R. M. Bishop & Co.....	".....	One Climax Mower.
189	1	6	R. M. Bishop & Co.....	".....	One Climax Reaper.
190	1	6	R. M. Bishop & Co.....	".....	One Reaper with Dropper Attachment
191	1	6	R. M. Bishop & Co.....	".....	Best Combined Reaper and Mower.
192	1	4	Owens, Lane, Dyer & Co.....	Hamilton, O.....	Circular Saw Mills.
193	1	4	Owens, Lane, Dyer & Co.....	".....	Saw Mill Head Blocks.
194	1	1	Owens, Lane, Dyer & Co.....	".....	One Portable Engine.
195	1	1	Owens, Lane, Dyer & Co.....	".....	One Stationary Engine.
196	1	6	Owens, Lane, Dyer & Co.....	".....	One Threshing Machine.
197	1	9	Sellew & Co.....	Cincinnati, O.....	Tinman's Machines.
198	1	9	Stanley Rule and Level Co.....	New Britain, Conn..	Endless Rubber Polishing Belt.
199	1	9	W. R. Patterson.....	Cincinnati, O.....	Fire Extinguishers.

200	1	5	A. F. Gibboney.....	Belleville P. O. Penn	One Pattern Power Loom.
201	1	6	J. Earnshaw.....	Cincinnati, O.....	One Corn Sheller.
202	1	6	J. Earnshaw.....	"	One Lawn Mower.
203	1	6	J. Earnshaw.....	"	Cider Mills and Presses Combined.
204	1	6	J. Earnshaw.....	"	Vibrating Churns.
205	1	6	J. Earnshaw.....	"	Red Jacket Churns.
206	1	6	J. Earnshaw.....	"	One Improved Tiffin Hay Rake.
207	1	9	J. Earnshaw.....	"	One Dog Power.
208	1	9	J. Earnshaw.....	"	Large Presses.
209	1	9	J. S. Herrick.....	"	Leffingwell's Self-Regulating Gas Saving Governor.
210	1	6	Hays & Church....	"	Pioneer Stump Puller and Rock Lifter.
211	1	9	Charles A. Bauer.....	"	One Ellipsograph.
212	1	9	Reckless & Lawrence.....	Philadelphia, Penn.	One Power Washing Machine.
213	1	3	James Shaughnessey.....	Cincinnati, O.....	A Grinding Attachment for Lathes.
214	1	3	Cin'ti Tool and Hardware Works.	"	Assortment of Machinists' Tools, Box, Vises, Sledges, Anvil, Napping Hammer, and Plating Knives.
215	1	5	Middleport Woolen Mills.....	Middleport, O.....	Power Looms.
216	1	6	J. Wilder & Co.....	Cincinnati, O.....	One Wheat Drill.
217	1	6	J. Wilder & Co.....	"	One Mowing Machine.
218	1	6	J. Wilder & Co.....	"	One Hand Lawn Mower.
219	1	6	J. Wilder & Co.....	"	One Horse Lawn Mower.
220	1	2	J. Wilder & Co.....	"	Wood Pumps.
221	1	6	J. Wilder & Co.....	"	One Hay, Straw, and Stalk Cutter.
222	1	6	J. Wilder & Co.....	"	Churns.
223	1	5	Allison, Smith & Johnson.....	"	One Type Casting Machine.
224	1	6	Augher & Parrott.....	Dayton, O.....	One-Horse Plows.
225	1	6	Augher & Parrott.....	"	Two-Horse Plows.
226	1	1	Jeremiah Darling.....	Cincinnati, O.....	One Automatic Steam Boiler Feeder.
227	1	1	Jeremiah Darling.....	"	One Precipitator.
228	1	2	Jeremiah Darling.....	"	One Pump.
229	1	6	Aultman Steel Co.....	Canton, O.....	Hoes and Mattock.
230	1	1	Wm. Kirkup & Son.....	Cincinnati, O.....	Steam Gauges.
231	1	7	W. M. Shaw.....	"	Keystone Sewing Machines.
232	1	7	W. M. Shaw.....	"	One Hinkley Knitting Machine.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
233	1	1	P. H. & F. M. Roots.....	Connersville, Ind...	One Force Blast Rotary Blower (Power).
234	1	1	P. H. & F. M. Roots.....	"	One Blacksmith's Rotary Blower (Power).
235	1	1	P. H. & F. M. Roots.....	"	One Hand Blower for Blacksmiths.
236	1	1	P. H. & F. M. Roots.....	"	One Smith's Forge, Hand and Power Combined.
237	1	1	P. H. & F. M. Roots.....	"	Portable Forges.
238	1	1	P. H. & F. M. Roots.....	"	Blacksmiths' Tweer Irons.
239	1	1	I. & E. Greenwald.....	Cincinnati, O.	One Steam Engine.
240	1	9	American Twist Drill Co.....	East Blackstone, Ms.	Patented Emery Grinding Machines.
241	1	9	Union Stone Co.....	Boston, Mass.....	Union Emery Wheels.
242	1	6	L. Waltz.....	Dayton, O.....	"Dayton" Horse, Hay, and Straw Fork.
243	1	5	J. P. Lindsay & Co.....	Cincinnati, O.....	Tag and Card Machine Combined.
244	1	5	J. P. Lindsay & Co.....	"	One Eyelet Machine.
245	1	9	Charles Beuttel.....	"	One Stamping Machine.
246	1	1	C. Ahrens & Co.....	"	One Steam Fire Engine.
247	1	7	James Skardon & Son.....	"	Weed Sewing Machines.
248	1	4	A. P. C. Bonte.....	"	One Eccentric Lathe.
249	1	9	E. M. Mayo.....	"	One Bolt Cutter.
250	1	1	Burley & Co.....	"	Safety Valves.
251	1	5	Cincinnati Type Foundry Co.....	"	Roller Stop Cylinder Press.
252	1	5	Cincinnati Type Foundry Co.....	"	Job Presses.
253	1	5	Cincinnati Type Foundry Co.....	"	One Hand Press.
254	1	5	Cincinnati Type Foundry Co.....	"	One Paper Cutter.
255	1	5	Cincinnati Type Foundry Co.....	"	One Hand Cylinder Press.
256	1	5	Cincinnati Type Foundry Co.....	"	One Iron Stand.
257	1	5	Cincinnati Type Foundry Co.....	"	One Stereotype Chiseling Machine.
258	1	5	Cincinnati Type Foundry Co.....	"	One Paper Plow.
259	1	5	Cincinnati Type Foundry Co.....	"	Cabinet and Cases.
260	1	5	J. P. Lindsay & Co.....	"	One Printing Press.
261	1	1	E. M. Linck.....	Zanesville, O.....	One Portable Engine and Saw Mill Combined.

262	1	9	Lansburgh & Co.....	Cincinnati, O.....	Apparatus for Rectifying Alcoholic Liquors.
263	1	9	Kane & Blakemore.....	".....	One Dozen Cans Foundry Facings.
264	1	4	American Machine Works.....	".....	One Scroll Saw.
265	1	6	Lewis Duvall.....	Louisville, Ky.....	One Hand Cultivator.
266	1	2	A. Leuchtweiss.....	Cincinnati, O.....	One Propeller Pump.
267	1	2	A. Leuchtweiss.....	".....	One Rotary Pump.
268	1	9	F. W. Myers.....	Sharonville, O.....	One Beveled Tool Rest.
269	1	2	Gibson & Ogden.....	Cincinnati, O.....	Engine, Well Pumps, Hose Pipe.
270	1	2	Gibson & Ogden.....	".....	Set Length Well Pumps.
271	1	2	Gibson & Ogden.....	".....	Pitcher Spout Cistern Pumps.
272	1	2	Gibson & Ogden.....	".....	Close Top Cistern Pumps.
273	1	8	Vandegrift & Potter..	Covington, Ky.....	One Smutter, Separator and Grain Grader Combined.
274	1	8	Vandegrift & Potter.....	".....	One Separator and Grain Grader.
275	1	8	Vandegrift & Potter.....	".....	One Merchant Mill Stone Feeder and Grain Separator Comb.
276	1	8	Vandegrift & Potter.....	".....	One Custom Mill Stone Feeder and Grain Separator Comb.
277	1	8	Vandegrift & Potter.....	".....	One Set of Self Trammings, Driving, and Balance Irons for Mill Stones.
278	1	2	McGowan Bros. Pump and Machine Co.....	Cincinnati, O.....	One Self-Priming Drive Well Pump.
279	1	7	Stoll, Barrows & Co.....	".....	Three Finkle & Lyon Improved Sewing Machines.
280	1	7	Wm. B. Houston.....	".....	Leslie's Magic Ruffler.
281	1	9	Henry M. Ritter.....	".....	Engineer's Level.
282	1	4	Lee & Norton.....	".....	One Set of Head Blocks.
283	1	1	Dr. Joseph G. Rogers.....	Madison, Ind.....	Roger's Boiler Scale Preventive and Apparatus.
284	1	9	Van Name & Co.....	Cincinnati, O.....	One Washing Machine and Wringer Combined.
285	1	1	Ohio Cement Felting Co.....	".....	Non-Conducting Cement Felting (a Non-Conductor of Heat and Frost for Covering Steam Boilers and Pipes).
286	1	7	Wilcox & Gibbs Sewing Machine Co.....	".....	Wilcox & Gibbs' Sewing Machines.
287	1	2	Miami Machine Works.....	".....	One Water Wheel.
288	1	8	Miami Machine Works.....	".....	One Bran Duster.
289	1	8	Miami Machine Works.....	".....	One Grain Scourer.
290	1	1	Gardner & Robertson.....	Quincy, Ill.....	Steam Governor and Automatic Stop Combined.
291	1	6	W. & J. Campbell.....	Harrison, O.....	One Corn Planter.
292	1	4	Steptoe, McFarlan & Co.....	Cincinnati, O.....	One 8 Inch Woodworth Planer.
293	1	4	Steptoe, McFarlan & Co.....	".....	One 24 Inch Planer and Matcher (Farran's).

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
294	1	4	Steptoe, McFarlan & Co.....	Cincinnati, O.....	One Weatherboard Saw.
295	1	4	Steptoe, McFarlan & Co.....	".....	One Iron Frame Moulding Machine.
296	1	4	Steptoe, McFarlan & Co.....	".....	One Tenon Machine.
297	1	4	Steptoe, McFarlan & Co.....	".....	Four Foot Morticers.
298	1	4	Steptoe, McFarlan & Co.....	".....	One Patent Blind Style Morticer.
299	1	4	Steptoe, McFarlan & Co.....	".....	One 14 Feet by 20 Inch Engine Lathe.
300	1	3	Steptoe, McFarlan & Co.....	".....	One Small Shaper.
301	24	.....	Hope & Whitney.....	Boston, Mass.....	One Glass Sign.
302	24	.....	D. Campbell.....	City Infirmary.....	Spinning Wheel and Reel Combined (Model).
303	4	.....	Stanley Rule and Level Co.....	New Britain, Conn..	Bailey's Patent Iron and Wood Planes.
304	21	.....	Miss Emma F. Alexander.....	Cincinnati, O.....	One Piece Hair Work.
305	21	.....	Miss Emma F. Alexander.....	".....	One Pond Lily (Wax Work).
306	21	.....	Miss Emma F. Alexander.....	".....	One Basket of Wax Flowers.
307	21	.....	Miss Emma F. Alexander.....	".....	One Stand of Refreshments (Wax Work).
308	24	.....	C. Colby.....	South Pass, Ill.....	One Box of Fruit Packages.
309	9	.....	Fisher & Craig.....	Covington, Ky.....	Manufactured Tobacco.
310	6	.....	E. R. Sawin.....	Boston, Mass.....	Horseshoe Nails.
311	5	.....	Marshall & McCarter.....	Cincinnati, O.....	Babbitts' and Other Metals for Machine Purposes.
312	7	.....	Phipps, O'Connell & Co.....	".....	Men's Kip Hunting Boots.
313	7	.....	Phipps, O'Connell & Co.....	".....	Rustic Kip Boots.
314	7	.....	Phipps, O'Connell & Co.....	".....	Gent's Half Boots, Plain Tops.
315	7	.....	Phipps, O'Connell & Co.....	".....	Kip Top Soled Boots.
316	7	.....	Phipps, O'Connell & Co.....	".....	French Kip Boots.
317	7	.....	Phipps, O'Connell & Co.....	".....	Fine Calf Boots.
318	7	.....	Phipps, O'Connell & Co.....	".....	Calf Boots.
319	7	.....	Phipps, O'Connell & Co.....	".....	U. L. B. Hob Nailed Boots.
320	7	.....	Phipps, O'Connell & Co.....	".....	U. S. Kip Brogans.
321	11	.....	Rudolf Berli.....	Covington, Ky.....	Rag Carpet.
322	11	.....	Rudolf Berli.....	".....	Rag Carpet.

323	11	Rudolf Berli.....	Covington, Ky.....	Rag Carpet.
324	4	Overmeyer, Motherwell & Olds...	Lancaster, O.....	One Knife for Cutting Box.
325	4	Overmeyer, Motherwell & Olds...	".....	One Pick-Axe.
326	4	Overmeyer, Motherwell & Olds...	".....	One Railroad Spike Maul.
327	4	Overmeyer, Motherwell & Olds...	".....	One Post Spoon.
328	4	Overmeyer, Motherwell & Olds...	".....	One Shovel.
329	11	Joseph W. Wayne.....	Cincinnati, O.....	One Butchers' Refrigerator.
330	11	Joseph W. Wayne.....	".....	One Schooley's Patent Refrigerator.
331	11	Joseph W. Wayne.....	".....	Beer Coolers, Nos. 2 and 10.
332	24	Morel & Fletcher.....	Covington, Ky.....	Piece Carbo Xulic Parthermal.
333	19	Ira C. Denise.....	Cincinnati, O.....	Oil Paintings (Landscape and Portrait).
334	10	S. S. White.....	Philadelphia, Pa.....	Artificial Teeth.
335	10	S. S. White.....	".....	Dental Instruments.
336	10	S. S. White.....	".....	Corundum Wheels, Files, and Slabs.
337	10	James Leslie.....	".....	Dentists' Gold, Silver, and Tin Foil.
338	13	Samuel Fosdick.....	Cincinnati, O.....	Five Bales Standard Unbleached Sheetings.
339	17	Snider & Bro.....	".....	Crackers and Biscuits.
340	17	Snider & Bro.....	".....	Cream Crackers.
341	24	New York Patent Carpet Renovating Co.....	".....	Pieces of Carpet and Rugs, Half Renovated.
342	19	M. Schneiderhahn.....	Louisville, Ky.....	One Wood Statue.
343	19	M. Schneiderhahn.....	".....	Three Plaster of Paris Statues.
344	5	Robson & Co.....	Cincinnati, O.....	Beer Pumps, Shifters, and Low Wine Pumps.
345	5	Robson & Co.....	".....	Slide Valves, and Screw Vacuum Valves.
346	5	Robson & Co.....	".....	Hinge Vacuum and Blow-Off Valve.
347	11	Moran & Farnsworth.....	".....	Refrigerators, Filters, and Coolers.
348	11	Moran & Farnsworth.....	".....	Copper Urns, Coal Vases, and Coal Hods.
349	11	Moran & Farnsworth.....	".....	Sets of Toilet Ware.
350	22	American Wine Co.....	".....	Sparkling Catawba Wines.
351	13	Tangeman & Hubner.....	Lockland, O.....	Woolen Yarns.
352	13	Hooven & Allison.....	Xenia, O.....	Twines and Cordage.
353	11	Day & Udell.....	Cincinnati, O.....	One Step and one Extension Ladder.
354	7	Crawford & Coffman.....	Dayton, O.....	Shoe Lasts, Boot Trees, etc.
355	20	Harding, Erwin & Co.....	Middletown, O.....	Flat Letter Paper, Note, and Letter Paper.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
356	11	P. Eby.....	Buffalo, N. Y.....	One Combined Fluting Machine and Sad Iron.
357	11	P. Eby.....	"	One Slat Bed Bottom.
358	11	P. Eby.....	"	One Bedstead Fastener.
359	10	Wm. Schubeler.....	Cincinnati, O.....	Artificial Hair Work and Fancy Hair Jewelry.
360	5	Oscar Warden.....	"	Steamboat Signal Lamps.
361	10	H. P. Diehl & Co.....	"	One Sample Board of Blank Fireworks.
362	9	Louis Harmyer.....	"	Smoking Tobacco.
363	9	Louis Harmyer.....	"	Snuff and Cigarettes.
364	5	Fewlass Hodgson.....	"	Case of Brass Finished Goods.
365	11	George H. Henkel.....	"	Children's Cab and Cradle Combined.
366	11	George H. Henkel.....	Ludlow, Ky.....	One Extension Breakfast and Dining Table.
367	11	Camargo Manufacturing Co.....	"	Paper Hangings, Decorations, and Window Shades.
368	11	Sitwell Harris.....	Cincinnati, O.....	Clothes Wringer Attachment.
369	11	Buckeye Washing Machine Co.....	Louisville, Ky.....	One Buckeye Clothes Wringer.
370	11	Samuel Haselburg.....	Wilmington, O.....	Rag Carpet.
371	4	Schwab & Reinhart.....	Cincinnati, O.....	Wrought Iron Locks.
372	5	Wm. C. Huntington.....	"	Non-Explosive Lamps.
373	16	Wm. C. Huntington.....	"	Downer's Mineral Sperm, and Pratt's Astral and Coal Oil.
374	5	Wm. C. Huntington.....	"	One Earth Closet Commode.
375	14	American Molded Collar Co.....	Boston, Mass.....	Paper Collars and Cuffs.
376	19	Charles Bullett.....	Louisville, Ky... ..	Marble Bust and Marble Medallion.
377	10	Duhme & Co.....	Cincinnati, O.....	Silverware and One Clock.
378	9	W. H. Gedge.....	Covington, Ky.....	Plug Tobacco.
379	11	C. Curtiss.....	Louisville, Ky.....	One Sofa Lounge.
380	6	Kimball & Co.....	Cincinnati, O.....	Meat Saws.
381	5	Zerbe, Perine & Co.....	"	One Gasoline Soldering Apparatus.
382	2	Zerbe, Perine & Co.....	"	Revolving Grate.
383	4	Zerbe, Perine & Co.....	"	One Shutter Fastener.
384	10	Zerbe, Perine & Co.....	"	Attachment for Fire-Arms.

385	11	Zerbe, Perine & Co.....	Cincinnati, O.....	Car Door.
386	5	Zerbe, Perine & Co.....	".....	Car Couplings.
387	8	Zerbe, Perine & Co.....	".....	One Safety Socket for Whips.
388	4	Zerbe, Perine & Co.....	".....	One Weather Strip.
389	2	Zerbe, Perine & Co.....	".....	Fire Grate.
390	18	Zerbe, Perine & Co.....	".....	One Extension Piano Treadle.
391	24	David McCurdy.....	Ottawa, O.....	One Iron Bridge.
392	20	Haldeman Paper Co.....	Lockland, O.....	Wrapping, Roofing, and Siding Paper.
393	11	W. R. Locke & Co.....	Cincinnati, O.....	Excelsior Wood Moss.
394	13	E. H. Sparks.....	Nicholasville, Ky....	One Bale of Hemp.
395	2	John B. Herron & Co.....	Pittsburg, Penn.....	One Soft Coal Heating Stove.
396	9	L. W. Fechheimer & Co.....	Cincinnati, O.....	Cigars and Indian Figure.
397	13	Geo. Miller.....	".....	Men's Half Hose.
398	13	Geo. Miller.....	".....	Men's Half Hose, dark gray.
399	13	Geo. Miller.....	".....	Men's Half Hose, light gray.
400	13	Geo. Miller.....	".....	Men's Half Hose, violet.
401	13	Geo. Miller.....	".....	Men's Half Hose, assorted colors.
402	13	Geo. Miller.....	".....	Ladies' Purple and Violet Hose.
403	13	Geo. Miller.....	".....	Misses' Hose, assorted colors, and different colored Mittens.
404	16	Carrett & Langenbeck.....	".....	Baking Powder.
405	13	Leclercq Bros.....	Gallipolis, O.....	Jeans.
407	24	F. Dieckman.....	Cincinnati, O.....	One Bridge Model.
408	8	Buschle & Wuest.....	".....	Felloes, Spokes, and Hubs.
409	8	Buschle & Wuest.....	".....	Shafts.
410	2	Mitchell, Stevenson & Co.....	Pittsburg, Penn.....	Soft Coal Cooking Stove.
411	16	O. F. Gordon.....	Cincinnati, O.....	Chemicals.
412	5	W. J. Lowry.....	".....	Zinc and Spelter.
413	5	W. J. Lowry.....	".....	Battery Plates.
414	13	Stewart & Grimes.....	Dayton, O.....	Colored Cotton Warps.
415	9	D. C. King & Co.....	Cincinnati, O.....	Tobacco Buckets.
416	7	Bart & Hickcox.....	".....	Rubber Belting, Spring and Para Rubber.
417	7	Bart & Hickcox.....	".....	Rubber Wagon Springs, Emery Wheel, and Rubber Floor Mat- [ting.
418	7	Bart & Hickcox.....	".....	Rubber Pitcher and Door Mat.
419	7	Bart & Hickcox.....	".....	Men's Hip and Short Boots, and Rubber Buckets.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
420	7	Bart & Hickcox.....	Cincinnati, O.....	Rubber Spittoons.
421	7	Bart & Hickcox.....	".....	Plain Rubber Packing, and Round and Square Piston Pack- [ing.
422	7	Bart & Hickcox.....	".....	Rubber Hose and Pure Rubber Tubing.
423	7	Bart & Hickcox.....	".....	Rubber Goods and Rubber Jewelry.
424	5	Samuel Males.....	".....	Public Urinals.
425	24	Samuel Males.....	".....	Model of Street Car Guard.
426	16	Smith & Sterrett.....	".....	Vegetable Oils.
427	16	Maxwell, Long & Co.....	Dayton, O.....	Standard and Family Soap.
428	16	Maxwell, Long & Co.....	".....	Laundry and Silver Mountain Soap.
429	24	W. J. DeGrummond.....	So. Pendleton, Ham- ilton Co., O.....	Two Passenger Car Window Sash Models.
430	11	J. C. Van Pelt.....	Cincinnati, O.....	Large and Small Refrigerators.
431	10	T. F. Randolph.....	".....	Mathematical Instruments.
432	10	T. F. Randolph.....	".....	Copper Scroll Lightning Conductors.
433	10	T. F. Randolph.....	".....	Models of Machinery.
434	10	T. F. Randolph.....	".....	Thermometers and Barometers.
435	19	Wm. Coulter & Son.....	".....	One Window of Ornamental Ground and Stained Cut Glass.
436	11	Albert E. Tripp.....	".....	One Curtain Fixture Model.
437	7	James Thomson & Son.....	".....	Leather Belting.
439	22	A. A. Swope.....	Philadelphia, Penn.	Preserved Fruits.
440	8	J. McKibben.....	Lima, Allen Co., O..	One Safety Bridle, One Safety Bridle with Accommodation
441	8	J. McKibben.....	".....	One Safety Bridle with Check Gag Runner.
442	8	J. McKibben.....	".....	A Combined Halter and Bridle.
443	8	J. McKibben.....	".....	Five Pieces of Harness.
444	11	Emile Loiseau.....	Nashville, Tenn.....	Movable and Adjustable Shade Model.
445	4	L. Duvall, Louisville Edge Tool Manu- facturing Co.....	Louisville, Ky.....	Three Cases of Edge Tools.
446	11	G. F. Hammer.....	Cincinnati, O.....	Looking Glass Frames and Sample Card of Moulding.
447	13	Cincinnati Cotton Press Co.....	".....	Bale of Compressed and Uncompressed Cotton (Exhib. only).

448	19	Alfred White.....	Cincinnati, O.....	Marble Sleeping Child (American Sculptor).
449	24	Alfred White.....	".....	Fine Marble Monument, and four Pieces of Marble Work.
450	24	Alfred White.....	".....	Imported Headstones and Scotch Granite Monuments.
451	20	John M. Scudder.....	".....	Case of Books, one Lot of Electrotypes, and Specimen of Wood-Cut Printing.
452	11	Ingle & Bennett.....	".....	Plate-Glass Mirrors and Looking-Glasses.
453	24	Chas. W. Harwood.....	".....	One Pair of Brick Molds.
454	12	Frederick Dallas.....	".....	Lot of White Granite and C. C. Ware, and Yellow R. Ware.
455	14	G. W. Hendley.....	".....	Hats, Caps, and Furs.
456	24	R. S. Craig & Co.....	".....	Brushes and Sample Cards.
457	16	J. J. Butler.....	".....	Inks and Mucilage.
458	16	Thos. S. Butler.....	".....	Boot and Shoe Blacking.
459	7	Elsas & Pritz.....	".....	Leather.
460	13	Pickering & Miller.....	".....	Ladies' and Upholstery Goods.
461	24	Gustav Lautenschlager.....	".....	One Hobby-Horse for Sample.
463	11	James William Burns.....	Medway, Clark Co. O.....	One Curtain and Map Fixture.
464	16	John Bailie & Co.....	Cincinnati, O.....	Baking Powder.
466	9	Stickney & Tanner.....	".....	Tobacco Boxes.
467	18	R. L. Atkins & Co.....	".....	Piano (Stanley & Sons' make).
468	18	R. L. Atkins & Co.....	".....	Church Organ (Geo. Woods, Boston, Mass., maker).
469	21	G. W. Tarr & Co.....	".....	Lace Collars.
470	19	G. B. Stedman.....	Detroit, Mich.....	Chromo (Exhibition only).
471	16	G. C. Watson.....	Cincinnati, O.....	Large Assortment of Corks.
472	4	Wm. McKinney & Co.....	".....	Butts, Table Hinges, and Trunk Hinges.
473	5	Joseph Busse.....	".....	Milk Cans.
474	8	George Decker.....	".....	Cane Whips.
475	16	Wm. S. Merrell & Co.....	".....	Drugs and Chemicals.
476	11	Wm. Altick.....	Dayton, O.....	One Parlor Fountain.
477	11	H. F. Nelson & Co.....	Cincinnati, O.....	School and Office Desks.
478	11	Bruce & Co.....	".....	Linen and Card Makers.
479	11	Bent & Goward.....	Chicago, Ill.....	One Extension Dining-Room Table.
480	2	Harris, Zoiner & Co.....	Cincinnati, O.....	Coal and Wood Stoves Combined.
481	5	E. B. Ward.....	Detroit, Mich.....	Samples of Iron.
482	5	E. B. Ward.....	".....	Photo of North Chicago R. Mill Works.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
483	11	Thomas Liebler.....	Cincinnati, O.....	Fancy Wooden Case of Silver Ware.
484	16	A. Erkenbrecher.....	".....	Starch.
485	5	H. Belmer & Co.....	".....	Wire Goods.
486	18	Rudolph Wurlitzer.....	".....	Musical Instruments.
487	18	Rudolph Wurlitzer.....	".....	Two Organs.
488	18	Kaiser & Kohler.....	".....	Six Musical Instruments.
489	5	Spear & Co.....	".....	Coal Oil Lamps and Fixtures.
490	16	Spear & Co.....	".....	Coal Oil.
491	5	Hendrick Wilson & Co.....	Dayton, O.....	Brass Work.
492	5	Dayton Malleable Iron Works.....	Dayton, O.....	Malleable Iron Castings on Sample Cards.
493	10	B. Kittredge & Co.....	Cincinnati, O.....	Military Goods and Fire-Arms.
494	5	Jas. J. Lyon.....	".....	Model of an Improved Catch Basin for Sewers.
495	11	Nicholas Patterson & Co.....	".....	Painted and Japaned Ware.
496	19	Jas. Murdock, Jr.....	".....	Stamps, Brands, Stencils, Medals, and Badges.
497	7	Bradford & Sharp.....	".....	Leather and Gum Belting, Hose, Packing, and Lace Leather.
498	21	Mrs. B. Stanton.....	".....	An Afghan.
499	8	Hatheral & Co.....	".....	Saddle Trees.
500	4	Schroder Lock Co.....	".....	Wrought Iron Door Locks.
501	4	Schroder Lock Co.....	".....	Door Knobs.
502	4	Schroder Lock Co.....	".....	Door Hinges.
503	5	Conover & Co.....	".....	Gas Meter.
504	24	T. C. Fahnestock.....	".....	Clip and File.
505	24	J. W. Tenney & Co.....	".....	Patented Shawl Strap.
506	24	J. W. Tenney & Co.....	".....	Patented Carriage Top Prop.
507	20	J. W. Tenney & Co.....	".....	One Penn Letter Book.
508	20	H. D. Rogers.....	".....	Printed Books for Manifold Writing and Printing.
509	11	R. J. Ellis.....	Newport, Ky.....	Rustic Stand.
510	11	R. J. Ellis.....	".....	Two Wardian Cases, furnished.
511	19	B. Stanton.....	Cincinnati, O.....	Oil Painting.

512	13	J. T. Douglass.....	St. Louis, Mo.....	Flax Bagging.
513	13	J. H. Goodheart & Co.....	Cincinnati, O.....	One Bale of Cotton.
514	5	William Bierman.....	".....	Milk Cans.
515	8	Dr. Anton Schmitt.....	".....	Patented Horse Detaching Device for Vehicles (Model).
516	4	S. H. Hall.....	".....	Weather Strips and Screens for Windows and Doors.
517	14	H. H. Stuckenberg.....	".....	Shirt Fronts.
518	21	Mrs. T. H. Woodworth.....	".....	Frames of Needle Work, Wax Leaves, Sea Moss, and Shells.
519	14	Locke & Wise.....	".....	Paper Collars.
520	14	American Tie Co., Shelt Bros.....	".....	Neckties.
521	22	James Gates & Co.....	".....	Prize Candy Boxes and Confections.
522	16	A. DeGraw.....	".....	Baking Powder.
523	10	George Watt & Co.....	".....	Dental Goods.
524	10	James McFarland.....	".....	One Uncle Sam's Needle Gun.
525	21	Miss Mollie Asbury.....	".....	One Large Quilt.
526	7	Knecht & Kempf.....	".....	Castings, Dog Irons, and Hat Rack, Dishes.
527	5	C. A. Church.....	New Berlin, N. Y.....	Sides of String Leather.
528	19	John Gundry.....	Cincinnati, O.....	Specimens of Penmanship.
529	11	F. Andress & Co.....	".....	Wall Paper Patterns.
530	11	Homan & Co.....	".....	White Metal Goods, Britannia Spoons.
531	5	American Gas Tip Manufacturing Co..	".....	Sleatite Gas Tips, etc.
532	2	Kice & Co.....	Louisville, Ky.....	Cooking and Heating Furnace.
533	19	O'Hare & Barry.....	Cincinnati, O.....	Marble Monuments, Statues.
534	17	J. F. Cunningham & Co.....	".....	Six Hams.
535	8	Joseph Trotman.....	".....	Saddle Trees.
536	5	Thomas S. Smith.....	".....	Sheet-Iron Tree Boxes.
537	2	Cordesman & Dierker.....	".....	Warm Air Furnace, Portable Ranges, and Brick Range and [Broiler.
538	24	Stephen Scotten.....	Richmond, Ind.....	Wooden Tree Boxes.
539	16	Alex. Fries & Bros.....	Cincinnati, O.....	Chemicals.
540	21	Mrs. Tombach.....	".....	Agricultural Wreath.
542	13	Gould, Pearce & Co.....	".....	Rope Warp Batting and Twine.
543	16	F. Dierlein & Co.....	".....	French Mustard.
544	10	Thomas Fugate.....	".....	Box Sterescopes.
545	9	S. Lowenthal & Co.....	".....	Manufactured Tobacco.
546	19	K. Hauser.....	".....	One Piece of Fine Art, cut out of Cork.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
547	10	Drs. Wardle & Willis.....	Cincinnati, O.....	Artificial Teeth.
548	11	J. B. M. Fifield.....	Philadelphia, Pa.....	Patented Combination Sideboard.
549	24	Z. Getchell & Co.....	Cincinnati, O.....	Model of House, showing Roofing.
550	11	Richard Nelson.....	".....	Davies' Patent Mixer and One Furniture Screen.
551	11	C. H. A. Temple.....	".....	Model of Boston Carpet Beating Machine.
552	6	Park, Bro. & Co.....	Pittsburg, Pa.....	Steel and Polished Goods.
553	24	DeBus Tub and Cooperage Co.....	Cincinnati, O.....	Tubs and Cooperage.
554	11	J. G. F. Grote.....	".....	Two Spring Mattresses and Spring Bolster.
555	16	Gest & Atkinson.....	".....	Lard Machinery Oil for Railroad purposes.
556	9	C. F. Schroeder & Bro.....	".....	Tobacco and Cigars.
557	24	Jacob Gardner.....	".....	Block of Coal, Five Feet Square.
559	19	Wm. W. Spencer.....	".....	Burning Brands, Cast-Steel Stamps, etc.
560	16	Averill Chemical Paint Co.....	".....	Samples of House Painting.
561	13	J. H. & T. Jouvett.....	".....	Silk Threads.
562	11	Cincinnati Furniture Association.....	".....	Etaizers and Sideboards.
563	16	Hartman, Laist & Co.....	".....	Chemicals.
564	21	Devou & Co.....	".....	Millinery Goods.
565	19	Charles Palm & Co.....	".....	Samples of Transfer Ornaments.
566	21	Mrs. Henry Brothers.....	".....	Wax Work.
567	21	Miss Emma Hart.....	".....	One Chess Table and Fancy Needle Work.
568	16	Frazer Lubricator Co.....	".....	Axle Grease.
569	11	G. F. Hammer.....	".....	Looking Glass Frames.
570	16	Enoch Morgan Sons.....	New York City.....	Sapolia.
571	16	John Dwight & Co.....	".....	Bicarbonate of Soda.
572	16	Hall & Ruckel.....	".....	Flavoring Extracts.
573	17	A. S. Tallmadge & Co.....	Cincinnati, O.....	Self-Rising Flour.
574	12	S. R. Ross.....	".....	Fire Brick.
575	11	F. Broegelman.....	".....	Plush.
576	21	Miss K. Marshall.....	Covington, Ky.....	Fancy Work.

577	11	J. H. Schaffer.....	Cincinnati, O.....	Wooden Ware.
578	11	W. J. & E. H. Kirk.....	".....	Assorted Shades for Windows.
579	24	John P. Epply.....	".....	Shrouds, Robes, and Coffin Ornaments.
580	24	John P. Epply.....	".....	Burial Caskets.
581	19	Pape Bros. & Kugemann.....	".....	Samples of Frames, Mirrors, Mouldings, and Cornices.
582	11	S. Holmes & Son.....	".....	Wall Papers, Shades, and Decorations.
583	14	A. J. Clark & Co.....	".....	Gent's Furnishing Goods.
584	14	A. J. Clark & Co.....	".....	Bemis' Patent Shaped Collars and Cuffs.
585	6	Woodrough & McParlin.....	".....	Saws.
586	4	Ohio Butt Co.....	Columbus, O.....	Cast Iron Butt Hinges.
587	15	John Bontes & Sons.....	Cincinnati, O.....	Bales of Cordage, one Anchor, and one Capstan.
588	13	Nonotuck Silk Co.....	New York City.....	Twists and Sewing Silk.
589	19	Frank Millward.....	Cincinnati, O.....	Mechanical Drawings.
590	8	Longenbrunner & Co.....	".....	Horse Collars.
591	6	Geo. S. Moore & Co.....	Louisville, Ky.....	Specimens of Hot Blast and Scotch Pig Iron.
592	6	Geo. S. Moore & Co.....	".....	Hecla Cold Blast Pig Iron for Car Wheels.
593	6	Geo. S. Moore & Co.....	".....	Specimen of Cold Blast Pig Iron.
594	6	Forsyth Scale Works.....	Cincinnati, O.....	Column Dormant Scale.
595	6	Forsyth Scale Works.....	".....	Letter and Manifest Presses, and Even Balance Scales.
596	6	Forsyth Scale Works.....	".....	Grocers and Drug Scales.
597	6	Forsyth Scale Works.....	".....	Six Tons Suspension Scale and Platform Scale.
598	6	Forsyth Scale Works.....	".....	One Pig Iron and One Rolling Mill Scale. [Counters.
599	6	Forsyth Scale Works.....	".....	One Brass and One Iron Cotton Beam, and Three Platform
600	13	Holmes, Bell & Co.....	Pittsburg, Pa.....	Four Bales $\frac{1}{4}$ Brown Sheetings.
601	13	Eagle Cotton Mills Co.....	".....	Four Bales $\frac{1}{4}$ Brown Sheetings.
602	13	John J. Mayers.....	Dayton, O.....	Flax Bagging.
603	13	Delaware Manufacturing Co.....	Delaware, O.....	Roll Flax Bagging.
604	13	S. & M. Walton.....	Spring Valley, O....	Roll Flax Bagging.
605	13	Camp & Randall.....	Warren, O.....	Bale of Tow and Roll of Flax Bagging.
606	21	Mrs. W. A. Melbourne.....	Grahampton, Ky....	One Knit Comfort and Five Stockings.
607	19	Cassilly Adams.....	Cincinnati, O.....	Seven Frames of Engravings.
608	23	Strobel & Wilken.....	".....	Case of Fancy Merchandise.
609	14	Charles E. Remelin.....	".....	Case of Hats and Caps.
610	19	P. Evens, Jr.....	".....	Seal Engraving Samples and Seal Presses.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
611	19	P. Evens, Jr.....	Cincinnati, O.....	Hand Printing Stamps and Impressions.
612	19	P. Evens, Jr.....	"	Seal Wax Impressions.
613	7	W. Lee.....	"	Case of Boots and Shoes.
614	5	F. Lunkenheimer.....	"	Lot of Brass Work.
615	5	North-Western Manufacturing Co.....	Chicago, Ill.....	Case of Steam Pipe Fittings.
616	8	Snellbaker & Deloras.....	Cincinnati, O.....	Patent Wagon Brakes.
617	22	Albert Fischer & Co.....	"	Preserves, Jellies, and Canned Goods.
618	5	David Cammerer.....	"	Copper Distill Apparatus.
619	21	Mrs. J. S. Baker.....	Newport, Ky.....	Wreath of Wax Flowers, one of Hair Work, one Shell Piece, Wax Vases, and Wax Flowers.
620	21	Mrs. J. S. Baker.....	"	One Wax Cross and one Vase of Wax Pond Lilies.
621	13	Zanesville Woolen Manufacturing Co....	Zanesville, O.....	Pieces of Doeskin Jeans.
622	12	Pollock & Bailey.....	Cincinnati, O.....	Earthen Ware.
623	8	Charles Dold.....	Mason, Warren Co. O	One Wagon Lock.
624	5	Vanduzen & Tift.....	Cincinnati, O.....	Church, Steamboat, Academy, and School-House Bells.
625	5	Vanduzen & Tift.....	"	Farm Bell, Assortment of Hand and Alarm Bells.
626	5	Vanduzen & Tift.....	"	Assortment of Babbitt Metal and one Lock-Up Safety Valve.
628	24	American Burial Case Co.....	"	Metallic Burial Case and Caskets.
629	5	Sellew & Co	"	Zinc Ornaments for Cornice Work.
630	5	Sellew & Co.....	"	Black Lead Crucibles.
631	16	Alex. McDonald & Co.....	"	Starch and Samples of Oils.
632	16	Alex. McDonald & Co.....	"	Oils and Drug Transportation Cans.
633	16	Alex. McDonald & Co.....	"	Axle Grease.
634	5	Henry Varwig.....	"	Brass Castings.
635	10	Henry Varwig.....	"	Silver-Plated Ware.
636	11	Joshua Jones & Co.....	"	Furniture.
637	23	J. W. Mitchell.....	"	Fancy Straw Air Castle.
638	7	John Stifel & Bros.....	"	Leather (Calf Skins and Linings).
639	7	Thomas Hennessy.....	"	Boots and Shoes.

640	10	Henry Twitchell.....	Cincinnati, O.....	Wine and Vinegar Acidometers.
641	10	Henry Twitchell.....	".....	Hydrometers.
642	13	Cincinnati Worsted Co.....	".....	Braids.
643	11	Cincinnati Tin and Japan Manf. Co...	".....	Assortment of General House Furnishing Hardware.
644	11	Cincinnati Tin and Japan Manf. Co...	".....	American Broiler.
645	11	Steinman, Meyer & Co.....	".....	One Leaf Patent Extension Table and one Patent Rocker [Cradle.
646	18	Albert Krell.....	".....	Musical Instruments.
647	12	John Matthews.....	New York City.....	One Glass Syphon Bottle.
648	10	S. N. Marsh, Corliss & Co.....	Cincinnati, O.....	Two Glass Cases of Trusses, Braces, Apparatus for Deform- ities, and Artificial Legs.
649	24	John Matthews..	New York City.....	One Marble Soda Water Apparatus.
650	5	Gibson & Ogden.....	Cincinnati, O.....	One Copper Bath Tub.
651	13	Charles C. Jacobs.	".....	Twines and Cordage.
652	5	A. Berg & Co.....	".....	One Copper Still.
653	9	Wilson, Sorg & Co.....	".....	Manufactured Tobacco.
654	11	F. H. Knoblauch.....	".....	One Chamber Set, Bureau, Bedstead, and Washstand.
655	13	Charles S. Burns.....	".....	Cane Fiber.
656	4	C. S. Burt.....	".....	Manufactured Shingles.
657	16	John M. Sharpless & Co.....	Philadelphia, Penn.	Extracts of Log Wood and other Chemicals.
658	19	Beeler & Curry.....	Cincinnati, O.....	Initial Press and Sample Framed Engravings.
659	4	George McGregor & Son.....	".....	Locks.
660	5	George McGregor & Son.....	".....	Bell Materials.
661	9	Barber & Stout.....	".....	Samples of Manufactured Tobacco.
662	12	J. C. Dexter.....	".....	Cement Drain Pipe.
663	19	Kohl & Tyler.....	".....	One Stereoscopic Museum.
664	6	E. Whitehead, Jr.....	".....	Horseshoes.
665	4	Wm. McKinney & Co.....	".....	Wrought Butts and Table Hinges.
666	2	A. G. Werthmiller & Co.....	".....	Ranges and Furniture.
667	2	J. Reynolds & Son.....	Philadelphia, Penn.	One Wrought Iron Furnace.
668	7	Hulseman & Bro.....	Cincinnati, O.....	Manufactured Sheep Skins.
669	19	James W. McLaughlin.....	".....	Framed Drawings.
670	16	Charles T. White & Co.....	New York City.....	Chemicals.
671	8	Warner, Peck & Co.....	Springfield, Mass....	One Child's Carriage.
672	9	Mitchell & Co.....	Cincinnati, O.....	Samples of Tobacco.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

CATALOGUE OF ARTICLES.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
673	9	Mitchell & Co.....	Cincinnati, O.....	Old Congress Brand Tobacco.
674	9	Mitchell & Co.....	".....	Old Congress Brand Tobacco.
675	9	Mitchell & Co.....	".....	Continental Brand Tobacco.
676	24	Joseph & Wm. Gill.....	".....	Model of a Tubular Railroad Bridge.
677	7	J. W. Lawson.....	".....	Ladies' Fine Shoes.
678	11	Middendorf & Bro.....	".....	Window Shades and Venetian Blinds.
679	10	John A. Mohlenhoff.....	".....	Clocks (Exhibition only).
680	19	Mrs. D. S. Carrick.....	".....	Crayon Drawings.
681	12	John A. Mohlenhoff.....	".....	Assortment Glass and China Ware.
682	11	J. C. Hall & Co.....	".....	Model of a Wardrobe Bedstead.
683	9	Perry Ellis.....	".....	Plug Tobacco.
684	4	L. C. Hall.....	".....	Patented Sash Lock and Frame.
685	20	Clegg Bros. & Co.....	".....	Samples of Printing (Pamphlets and Price Lists).
686	8	George T. Cooke.....	".....	Children's Carriages, Cradles and Jumpers Combined.
687	24	George T. Cooke.....	".....	Mastodon Tusk (for Exhibition).
688	24	George T. Cooke.....	".....	Pum Granite Tree.
689	9	N. Harris & Co.....	".....	Fine-Cut Chewing and Smoking Tobacco.
690	24	G. A. Nelson.....	".....	Patented Card Racks.
691	8	George C. Miller & Sons.....	".....	One Barouche, one Landaulet, and one Top Buggy.
692	15	F. Vonderheide.....	".....	Manilla Hemp-Tarred, Cotton-Lined Ropes.
693	2	Greenwood Stove Co.....	".....	Cooking and Heating Stoves.
694	13	L. C. Hopkins & Co.....	".....	Blankets.
695	23	L. C. Hopkins & Co.....	".....	Fancy Blankets.
696	3	Hall Safe and Lock Co.....	".....	Hall's Patented Burglar-Proof Safes.
697	3	Hall Safe and Lock Co.....	".....	Hall's Fire and Burglar-Proof Safes.
698	3	Hall Safe and Lock Co.....	".....	Hall's Patented Concrete Fire-Proof Safes.
699	3	Hall Safe and Lock Co.....	".....	Hall's Patented Improved Fire-Proof Safes.
700	3	Hall Safe and Lock Co.....	".....	One Old Safe.
701	3	Hall Safe and Lock Co.....	".....	Variety of Hall's Combination Bank Locks.

702	8	Lane & Co.....	Hamilton, O.....	Felt Saddle Blankets.
703	5	Robson & Co.....	Cincinnati, O.....	Brass Castings for Distilleries, Receivers and Separators.
704	11	Edward L. Parris.....	".....	Wooden Ware.
705	10	William Beck.....	".....	Regalias and Fancy Costumes.
706	24	Wm. Bromwell & Co.....	".....	Brushes.
707	19	Allard & Kloster.....	".....	Sculpture Work.
708	16	Janentzky & Co.....	".....	Case Artist's Colors and Materials.
709	19	John H. Branth.....	".....	Specimens of Wood-Cut Printing.
710	16	L. O. Cameron.....	".....	Samples of Mixed Gloss Paints.
711	16	George Fox.....	".....	Starch.
712	8	B. Bruce & Co.....	".....	Carriages—Six-Seat Clarence and Summer Brett.
713	8	B. Bruce & Co.....	".....	Four-Seat Coupe Sociable, Park Phaeton, and Brett Cabriola.
714	11	John Milwain.....	Nashville, Tenn.....	School Desk.
715	16	Goshorn Bros.....	Cincinnati, O.....	White Lead.
716	14	J. P. Love.....	".....	Corsets.
717	8	J. W. Gosling.....	".....	Clarence Coach and Park Phaeton.
718	8	J. W. Gosling.....	".....	One-Horse Barouche and Top Buggy.
719	19	George N. Black.....	".....	Metal and Silver Door Plates.
720	21	Mrs. Lizzie L. Sivet.....	".....	Satin, Velvet, and Bead Slippers.
721	21	Mrs. Lizzie L. Sivet.....	".....	Silk Quilt, Stool Covers, and Lamp Mats.
722	5	Dr. Musgrove.....	".....	Gas Cooking Apparatus.
723	9	J. D. Hathaway.....	".....	Cigars.
724	24	Theodore Dreidel.....	".....	Extracts and Essence of Coffee.
725	11	T. Murdock & Cummingore.....	".....	Patent Brooms.
726	16	Eagle White Lead Co.....	".....	White Lead, Colored Paints, and Oils.
727	5	Wm. Kirkup & Son.....	".....	Brass Goods for Locomotives.
728	5	Wm. Powell & Co.....	".....	Brass Goods for Steam Fitters and Engine Builders.
729	5	Wm. Powell & Co.....	".....	Globe Valves.
730	5	Wm. Powell & Co.....	".....	Plumbers Brass and Plated Ware.
731	24	H. P. Hopkins.....	".....	Fancy Sign.
732	13	Singer Manufacturing Co.....	".....	Machine Twist.
733	24	J. W. Winder.....	".....	Bee-Hive and Honey Extractor.
734	2	Bennett Hot Air Furnace Co.....	".....	Furnaces and School-House Heaters.
735	16	Joseph Fromherz.....	".....	Chemical Writing Fluid.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
736	6	L. Patterson.....	Cincinnati, O.....	Horseshoes.
737	6	Covington Rail Mill Co.....	Covington, Ky.....	Samples of Railroad Iron.
738	2	John Grossius.....	Cincinnati, O.....	Hot Air Furnace and School-House Stoves.
740	19	Post & Co.....	".....	Wheel Cut Glass.
741	5	Post & Co.....	".....	Brass Castings.
742	6	Post & Co.....	".....	Samples of Steel and Iron Railroad Bars.
743	24	Post & Co.....	".....	Locomotive Head Lights and Plush.
744	24	Post & Co.....	".....	Trimnings for Cars and Spun Brass.
745	4	Charles Gooch.....	".....	Display of Tools and Sample Boards.
746	4	Charles Gooch.....	".....	Ice Cream Freezers and Machines.
747	12	Tempest, Brockman & Co.....	".....	White Granite and C. C. Ware.
748	5	Taylor, Strow & Co.....	Philadelphia, Penn.	Black Lead Crucibles.
749	6	Licking Iron Works.....	Cincinnati, O.....	Sheet, Boiler, Bar, Angle, and Bridge Iron.
750	6	Licking Iron Works.....	".....	Rivets, Fish Plates, Chain and Railroad Spikes.
751	13	Cincinnati Stocking Factory.....	".....	Woven Stockings.
752	4	Oliver Kells.....	Steubenville, O.....	Metallic Hearth.
753	19	Wright & Denison.....	Cincinnati, O.....	Stencil Plates.
754	4	Ordelmund & Schuberth.....	".....	Walker's Patent Extension Ladder.
755	9	Spence Bros. & Co.....	".....	Fine-Cut Chewing and Smoking Tobacco.
756	16	James A. Frazer & Co.....	".....	Samples of Groceries.
757	16	Davis, McKean & Co.....	Philadelphia, Penn.	Samples of Sugar.
758	14	B. F. Coan.....	Cincinnati, O.....	Hats, Caps, and Furs.
759	16	Procter & Gamble.....	".....	Soap, Candles, and Lard Oil.
760	16	L. & J. W. Feuchtwanger.....	New York City.....	Chemicals.
761	10	George Watt & Co.....	Cincinnati, O.....	Dentist's Forceps, Pluggers, Excavators, and Moulding Flasks.
762	2	C. B. Evans & Co.....	".....	Parlor Stoves and Grates.
763	21	Mrs. L. Drury.....	Springfield, O.....	Chart for Cutting Garments.
764	4	Schumacher & Johnson.....	Milwaukee, Wis.....	Patent Blind Hinges.
765	9	M. Haas.....	Cincinnati, O.....	Cigars.

766	20	McKay & Cullin.....	Cincinnati, O.....	Electrotype Plates.
767	24	John Polhner.....	".....	Wine Keg.
768	7	James Scallan & Co.....	".....	Boots and Shoes.
769	6	Coffin, Shays & Co.....	".....	Files and Saws.
770	24	Coffin, Shays & Co.....	".....	Parlor Game.
772	2	Mears, Olhaber & Co.....	".....	Stoves.
773	21	M. T. Hough & Co.....	".....	Millinery.
774	16	Succop & Lips.....	".....	Roasted and Glazed Coffee.
775	10	Madame Zwick.....	".....	Hair Work, Braids, Wigs, and Hair Pictures.
776	14	Isaac F. Smith.....	".....	Gent's Furnishing Goods and Walking Canes.
777	14	George Thill & Co.....	".....	Hats, Caps, and Furs.
778	14	A. E. & F. B. Burkhardt.....	".....	Hats, Caps, and Furs.
779	19	Joseph A. Williams.....	".....	Wood Engravings.
780	22	M. Nathan & Co.....	".....	Fancy Candies.
781	21	S. Wilson.....	".....	Ladies' Cloaks, Dresses, Millinery, etc.
782	20	Young Men's Bible Society.....	".....	Bibles.
783	9	Cox, Crawford & Co.....	Covington, Ky.....	Samples of Leaf Tobacco.
784	24	J. B. & T. E. Johnson.....	Cincinnati, O.....	Safety Drying Kiln.
785	16	Chapin, Sampson & Rogers.....	".....	Boxes of Mustard.
786	2	J. Van & Simonds.....	".....	Family Ranges, Hotel Range, and Steam Table.
787	2	J. Van & Simonds.....	".....	Hotel Broiler and Laundry Stove.
788	2	J. Van & Simonds.....	".....	Carving Table and Ware, Tea and Coffee Urns.
789	2	J. Van & Simonds.....	".....	Hot Air Furnace.
790	4	W. F. & V. Whitney.....	".....	White Pine Plank.
791	6	Addy, Hull & Co.....	".....	Samples of Iron and Iron Ores.
792	21	Miss Mary Creed.....	".....	Picture of Fancy Needle Work and Fancy Basket.
793	19	Henry Burgund.....	".....	Stained Glass Pictures.
794	24	J. S. Youngblut.....	Covington, Ky.....	Sealing Wax.
795	24	Fraker Fence Co.....	Cincinnati, O.....	Section Door Yard Fence.
796	24	J. C. Appenzeller.....	".....	One Pair of Animal Horns.
797	6	Morris & Reith.....	".....	Recut Files.
798	6	Marmet & Co.....	".....	Coke and Coal.
799	11	A. C. Richards.....	".....	Oiled Walnut Fine Bedstead.
800	19	W. S. Porter.....	".....	Plain and Colored Photographs and Daguerrean Views.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
801	4	James L. Haven & Co.....	Cincinnati, O.....	General Assortment of Builder's Hardware.
802	16	E. J. Wilson & Co.....	"	General Assortment of Spices and Mustards.
803	11	French & Myers.....	"	Section of Ornamental Wood Work.
804	9	R. M. Bishop & Co.....	"	Maccaboy and Scotch Snuff.
805	9	R. M. Bishop & Co.....	"	Challenge and Century Fine-Cut Chewing Tobacco.
806	9	R. M. Bishop & Co.....	"	Yacht Club Smoking Tobacco.
807	16	R. M. Bishop & Co.....	"	Kingsford's Corn, Silver Gloss, and Pure Starch.
808	16	R. M. Bishop & Co.....	"	Tiger Soap and Horseford's B. Preparation.
809	21	Miss R. A. Williams.....	"	Trimmed Patterns.
810	8	P. J. Marqua & Co.....	"	Children's Carriages and Hobby Horses.
811	16	Edward Berghausen & Co.....	"	Essences for Liquors, Flavoring Extracts, Chemicals, etc.
812	5	T. J. Nottingham & Co.....	"	Brass Castings and Finished Brass Work.
813	10	John C. Huntington & Co.....	"	China and Silver Ware.
814	19	Will P. Noble.....	"	Water-Colored Paintings.
815	4	Amos Barr.....	"	Level, Bevel, Square and Rule Combined.
816	4	American Bolt and Nut Works.....	"	Bolts, Nuts, Washers, etc.
817	20	W. S. Baldwin & Co.....	"	Scrap Books.
818	4	Loughead & Porter.....	"	Sash, Doors, Blinds, and Mouldings.
819	19	J. Landy.....	"	Photographs and Water-Colored Paintings.
820	7	Rudolph & Potter.....	"	Ladies' Hand-Made Shoes.
821	24	A. Murray.....	"	Advertising Table.
822	19	Glessner & Stanton.....	"	Landscape Photographs.
823	16	Clarke & Taylor	"	Purified Linseed Oil.
824	16	Clarke & Taylor	"	Purified Cotton-Seed Oil.
825	16	Clarke & Taylor	"	White Lead Ground in Oil.
826	16	Clarke & Taylor	"	Coach Varnish.
827	19	R. T. Clarke.....	"	Oil Paintings.
828	10	Dr. A. O. Forsberg.....	"	Artificial Limbs.
829	10	Dr. A. O. Forsberg.....	"	Trusses.

830	10	Dr. A. O. Forsberg.....	Cincinnati, O.,	Instruments for Deformities.
831	10	Dr. A. O. Forsberg.....	"	Supporter for Ladies.
832	10	Dr. A. O. Forsberg.....	"	Crutches.
833	9	C. Bodman & Co.....	"	Leaf Tobacco.
834	19	Strobridge & Co.....	"	Lithographs and Engravings.
835	6	Pomeroy, Mendenhall & Co.....	"	Iron and Steel.
836	6	Pomeroy, Mendenhall & Co.....	"	Steel.
837	5	Pomeroy, Mendenhall & Co.....	"	Sheet Iron.
838	6	Pomeroy, Mendenhall & Co.....	"	Blacksmiths' Materials.
839	11	Snowdon & Otto	"	Carpets and Curtains.
840	11	L. Voight & Co.....	"	Paper Hangings and Window Shades.
841	8	M. D. Flynt.....	"	Trunks, Bags, Valises, and Shawl Straps.
842	10	John Holland.....	"	Gold Pens.
843	8	Leonard & Cook.....	"	Trunks, Bags, Valises, and Shawl Straps.
844	11	Kohl & Tyler.....	"	Adjustable Parlor Tables.
845	11	Kohl & Tyler.....	"	Adjustable Photograph Tables.
846	19	Wm. Kohl.....	"	Ornamental Piece.
847	10	Kohl & Tyler.....	"	Exhibition Box.
848	10	Kohl & Tyler.....	"	Parlor Regulation Scopes.
849	10	Kohl & Tyler.....	"	Parlor Scopes.
850	10	Kohl & Tyler.....	"	Holmes' Scopes.
851	10	Kohl & Tyler.....	"	Retouching Frame.
852	10	Kohl & Tyler.....	"	Stereoscopic Home Views.
853	10	Kohl & Tyler.....	"	Graphoscope and Stereoscope Views (Exhibition only).
854	11	A. C. Richards.....	"	Oiled Walnut Fine Dressing Case.
855	11	A. C. Richards.....	"	Oiled Walnut Side-Board and Silver Case Combined.
856	11	A. C. Richards.....	"	Book Case and Rosewood Bedstead.
857	11	A. C. Richards.....	"	Dressing Bureau and Rosewood Stand.
858	11	A. C. Richards.....	"	Oiled Walnut Side-Board and Rustic Hat Rack.
859	11	A. C. Richards.....	"	New York Davenport and Oiled Walnut Rustic Table.
860	11	A. C. Richards.....	"	Oiled Walnut Rustic Flower Stand and Tub.
861	11	A. C. Richards.....	"	Oiled Walnut Flower Stand and Extension Table.
862	11	A. C. Richards.....	"	Oiled Walnut Music Rusk and Fine Lounge and Bedstead.
863	11	A. C. Richards.....	"	Oiled Walnut Plain Lounge and Bedstead.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
864	11	A. C. Richards.....	Cincinnati, O.....	Oiled Walnut Camp Chairs and Music Stand.
865	11	A. C. Richards.....	"	Oiled Walnut Shaving Stand and Aquarium.
866	11	A. C. Richards..	"	Oiled Walnut Hangers, Hat Rack, and Walnut Card Receiver.
867	11	A. C. Richards	"	Oiled Walnut Pedestal and Spring Bed-Bottom.
868	6	Ritter, Hogan & Sowden.....	"	Saws.
869	6	Ritter, Hogan & Sowden.....	"	Patent Trowels.
870	6	Ritter, Hogan & Sowden.....	"	Patent Planing Knives.
871	6	Ritter, Hogan & Sowden.....	"	Molding Knives.
872	21	Mrs. C. T. Crane.....	"	Hair Wreath.
873	13	Franklin Mills.....	Lewiston, Me.....	Avondale Sheetings.
874	13	Camp & Randall.....	Warren, O.....	Tow.
875	5	Grundy Co.....	Boston, Mass.....	Lathe Pipe Cutters.
876	5	Grundy Co.....	"	Brass Cocks.
877	5	American Tube Co.....	"	Seamless Drawn Brass Tubing.
878	5	American Tube Co.....	"	Seamless Drawn Copper Tubing.
879	8	Albrecht & Nieman.....	Cincinnati, O.....	Barouche and Shifting-Top Buggy.
880	2	Fares, Miller & Young.....	"	Brick and Portable Range, with Steam Table.
881	2	Fares, Miller & Young	"	Portable Furnaces.
882	5	M. Greenwood & Co.....	"	Brass Castings.
883	22	Colter Packing Co.....	"	Canned Fruit and Vegetables.
884	8	American Wagon Works.....	"	Farm and Spring Wagons and Wheelbarrows.
885	19	W. Lamprecht.....	"	Oil Painting.
886	16	W. C. Peale & Bro.....	"	Artists' Materials and Colors.
887	6	Wm. Russel.....	"	Horseshoes.
888	23	J. R. Peebles' Sons.....	"	Assortment of Spices.
889	5	Dunn & Witt.....	"	Galvanized Iron Work.
890	16	Cooper, Stevens & Co.....	"	Glue.
891	24	Jacob Gominger.....	"	Hunting and Pleasure Boats.
892	5	Gibson & Ogden.....	"	Marble Top Wash Stand.

893	5	Gibson & Ogden.....	Cincinnati, O.....	Valve Water Closet.
894	11	Lewis Massman, Sen.....	".....	Enameled Ware.
895	2	Dierckes, Hofschulte & Co.....	".....	Enameled Fire-Grates.
896	11	Dierckes, Hofschulte & Co.....	".....	Marbleized Iron and Slate Mantels.
897	2	G. W. Ball & Co.....	".....	Cooking and Parlor Stoves.
898	2	W. E. Childs.....	".....	Cooking and Parlor Stoves.
900	2	Adolphus, Lotze & Co.....	".....	Warm Air School-Room Stoves.
901	2	Adolphus, Lotze & Co.....	".....	Warm Air Furnaces, Cooking Range, and Ventilating Shaft.
902	11	A. J. & G. W. M. Vandegrift.....	Covington, Ky.....	Coffee and Spice Mill.
903	8	John Curtis.....	Cincinnati, O.....	Top and Open Buggy, and Skeleton Wagon.
904	8	John Curtis.....	".....	Landau and Sulky.
905	11	Julius Balke.....	".....	Billiard Tables and Fixtures.
906	5	McHenry & Co.....	".....	Gas Fixtures, Lamps, and Plumbing Goods. [istry.
907	10	L. Robertson.....	".....	Dental Instruments, Impression Cap, and Mechanical Den-
908	10	L. Robertson.....	".....	Operating.
909	16	H. M. Merrell & Co.....	".....	Fluid Extracts and Resinoids.
910	8	Royer Wheel & Co.....	".....	Wagon, Carriage, and Buggy Wheels.
911	11	Dolph, Brown & Co.....	".....	Bureau Frames and Stenders.
912	10	W. B. Smith & Co.....	".....	Burglar and Fire Alarm.
913	24	Stephens, Heinsheimer & Co.....	".....	Samples of Roofing and Paving.
914	12	F. Schultze & Co.....	".....	French China, Foreign Glass Ware, and Bronzes.
915	19	D. H. Whitehead.....	".....	Glass Sign.
916	11	Joseph C. Ringwalt & Co.....	".....	Carpets, Oil Cloths, Druggets, Mats, and Rugs.
917	11	Waters & Barrett.....	".....	Wooden Ware.
918	2	C. S. Rankin & Co.....	".....	Enameled Grates and Ornamental Iron Work.
919	11	C. S. Rankin & Co.....	".....	Marbleized Iron Mantels.
920	2	Chamberlain & Co.....	".....	Parlor and Cooking Stoves and Range.
921	19	Charles Waldack.....	".....	Photographs.
922	7	F. P. Haldy.....	".....	Boots and Shoes.
923	11	H. M. Diggins.....	".....	Refrigerator.
924	11	J. M. Brunswick & Bro.....	".....	Billiard Table and Revolving Cue Racks.
925	19	Forristall & Deal.....	".....	Plain Gold Sign.
928	13	VanName & Co.....	".....	Clothes Wringer and Mangle.
929	11	A. Forbriger.....	".....	Specimens of Drawings from Public Schools (Exhibition only).

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
930	11	Queen City Wringer Co.....	Cincinnati, O.....	Clothes Wringers.
931	5	American Tube Works.....	Boston, Mass.....	Plumbers' Brass Water Pipes and Fittings.
932	5	Wm. Powell & Co.....	Cincinnati, O.....	Compression Cocks and Valves.
933	5	Wm. Powell & Co.....	".....	Plumbers' Supplies.
934	5	Wm. B. Scaife.....	Pittsburg, Penn.....	Black & Galvanized Iron Boilers.
935	19	James Powell.....	Cincinnati, O.....	Silver Medallions.
936	9	J. A. P. Glore & Bros.....	Covington, Ky.....	Manufactured Tobacco.
937	19	Ehrgott & Krebs.....	Cincinnati, O.....	Engraving, Lithographing, and Chromo Printing.
938	4	H. Pffister.....	".....	Locks.
939	4	H. Pffister.....	".....	Bell Work.
940	9	Frank E. Kaiser.....	".....	Cigars.
941	11	Joseph Foster.....	".....	Marble Mantels and Fancy Marble Wash Stand.
942	3	Diebold & Kienzle.....	".....	I X L and Eagle Combination Locks.
943	19	Mrs. C. Herbolsheimer.....	".....	Oil Painting.
944	14	John C. Buerkle.....	".....	Furs.
945	24	Wm. Beck.....	".....	Silk Banner.
946	8	Charles Behlen.....	".....	Six Seat Rockaway and Coupe Cabriolet.
947	4	Henry Read.....	".....	Fancy Newell Posts for Stairs.
948	11	C. H. Berry.....	Boston, Mass.....	Berry's Patent Bed Lounge.
949	6	Gaylord, Son & Co.....	Cincinnati, O.....	Manufactured and Unmanufactured Iron.
950	5	Greenwood Pipe Co.....	".....	Oil and Tallow Globes, Valves, and Pipe Cutters.
951	8	Royer Wheel Co.....	".....	Hubs, Spokes, Felloes, and Shafts.
952	7	T. Kilsheimer.....	".....	Boots and Shoes.
953	19	Charles Ross, Jr.....	".....	Landscape Oil Painting.
954	3	MacNeale & Urban.....	".....	Fire and Burglar Proof Safes.
955	3	MacNeale & Urban.....	".....	Combination Locks.
956	24	Aug. Sunderbruch.....	".....	Plants.
957	8	Hale & Murdock.....	".....	Saddle Cloths.
958	24	Peter Schwan.....	".....	Stuffed Birds.

959	22	Rauch & Sons.....	Cincinnati, O	Rauch's Cordial.
960	21	Mrs. Thomas Braund.....	"	Table-Cloth, Ottoman Covers, Mat, and Pin Cushion.
961	19	M. Herold... ..	"	Specimens of Penmanship.
962	16	A. G. Peck.....	"	Baking Powder, Soda, and Cream Tartar.
963	24	Charles M. O'Hara.....	"	Hand Corn Shellers and Patent Shoe Ties.
964	22	Prince & Walton.....	"	Liquors.
965	7	J. S. Howe.....	"	Boots and Shoes.
966	13	Belding Bros. & Co.....	"	Sewing Silks, Machine, and Button-Hole Twist.
967	23	W. W. Hanly & Co.....	"	Teas.
968	10	Dr. E. B. Fairchild.....	"	Aluminum Teeth.
969	5	J. B. & T. Gibson	"	Plumbers' Goods and Brass Work.
970	2	Nicholas Patterson & Co.....	"	Stoves and Ware.
972	6	Globe Rolling Mill Co.....	"	Iron Wire and Plow Steel.
973	24	Charles Albert.....	"	One Log Landscape.
974	14	J. H. Richter.....	"	Boys' Clothing.
975	19	T. C. Lindsay.....	"	Oil Paintings (Landscapes).
976	19	Miss Emma Saylor.....	Hillsborough, O	Oil Paintings.
977	20	Wilson, Hinkle & Co.....	Cincinnati, O	Blank and School Books.
978	16	John V. Lewis.....	"	Vegetable Oils.
979	22	P. Echert & Co.....	"	Plain and Fancy Confectionary.
980	24	J. L. Wayne & Son.....	"	Plated Coffin Trimmings.
981	11	J. L. Wayne & Son.....	"	Cutlery and Fluting Machines.
982	4	J. L. Wayne & Son	"	Door and Weather Strips, and Screws.
983	13	Macon Mills.....	Macon, Ga.....	$\frac{1}{4}$ Sheetting.
984	13	Eagle & Phoenix Mills.....	Columbus, Ga.....	Excelsior Checks.
985	13	Eagle and Phoenix Mills.....	"	Black Warp.
986	13	Dover Mills.....	Dover, Ky.....	Jeans.
987	13	Augusta Mills	Augusta, Ga.....	$\frac{1}{4}$ and $\frac{1}{2}$ Sheettings.
988	13	Augusta Mills.....	"	$\frac{3}{4}$ Sheetting, and $\frac{1}{2}$ Drills.
989	14	J. P. Love	Cincinnati, O	Corsets.
990	4	Conrad Gross.....	"	Blacksmiths' Hammer.
991	13	Princeton Mills.....	Athens, Ga.....	Cotton Yarn.
992	13	Middleport Mills.....	Middleport, O	Zephyr and Solferino Yarns.
993	13	Middleport Mills.....	"	White, Red and Blue Mixed Yarn.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
994	13	Middleport Mills.....	Middleport, O.....	Jeans.
995	13	Lacon Mills.....	Lacon, Ill.....	Shawls.
996	13	Lacon Mills.....	"	Shawls.
997	13	Lacon Mills.....	"	Shawls.
998	13	Lacon Mills.....	"	Shawls.
999	13	Lacon Mills.....	"	Shawls.
1000	13	Lacon Mills.....	"	Shawls.
1001	24	F. E. Suire & Co.....	Cincinnati, O.....	Draughtstand's Generator, and Fountains.
1002	13	Lacon Mills.....	Lacon, Ill.....	Shawls.
1003	13	Lacon Mills.....	"	Shawls.
1004	8	Cincinnati Forging Co.....	Cincinnati, O.....	Buggy and Wagon Fifth Wheels.
1005	8	Rice & Co.....	Springfield, O.....	Childs' Carriage.
1006	2	W. Resor & Co.....	Cincinnati, O.....	Coal and Wood Cooking Stoves.
1007	2	W. Resor & Co.....	"	Coal Cook Stoves.
1008	2	W. Resor & Co.....	"	Cooking and Heating Stoves.
1009	5	S. C. Tatum.....	"	Iron Castings and Flasks.
1010	21	American Button-Hole, Overseaming, and Sewing Machine Co.....	"	Sewing Machine Work.
1011	21	American Button-Hole, Overseaming, and Sewing Machine Co.....	"	Button-Hole Machine Work.
1012	19	T. B. Handy.....	"	Parquetry Flooring.
1013	4	Marsh & Co.....	"	Plaster.
1014	11	H. Closterman.....	"	Sociables, Chairs and Marble Tables.
1015	11	H. Closterman.....	"	Chairs and Spittoons.
1016	12	L. Weigel & Co.....	"	Glass Show Cases.
1017	19	L. Wiegel & Co.....	"	Silver and Glass Aquarium.
1018	10	A. D. Smith & Co.....	"	Regulator Clock.
1019	18	John Church & Co.....	"	Pianos, Organs, and Musical Instruments (Exhibition only).
1020	10	T. J. Harcourt.....	"	Dentistry, Miniature Engine, etc.

1021	E. Locke.....	Cincinnati, O.....	Pianos and Organs (Exhibition only).
1022	Mrs. H. Brothers.....	".....	Worsted Work.
1023	Mrs. D. S. Carrick.....	".....	Wax Work.
1024	L. Prang.....	Boston, Mass.....	Chromos.
1025	Geo. Bogen & Son.....	Cincinnati, O.....	Native and Sparkling Wines.
1026	E. D. Albro & Bro.....	".....	Chamber Set, Newell Posts, and Veneers.
1027	Ohio Great Vein Mining Co.....	New Lexington, O... ..	Coal and Iron Ores.
1028	M. M. Murray.....	Cincinnati, O.....	Spring Bed Bottoms.
1029	Geo. D. Winchell, Upson & Co	".....	Tin and Japan Ware.
1030	Lawrence Iron Works.....	".....	Bar and Hoop Iron.
1031	Cochran & Newport.....	".....	Lubricating and Lard Oils.
1032	Eckstein, Hills & Co.....	".....	White and Red Lead and Paints.
1033	Keppler & Bro.....	".....	Confectionary.
1034	French Bros.....	Nashville, Tenn.....	Spokes, Felloes, and Wagon Materials.
1035	French Bros.....	".....	Ax, Pick, and Sledge Handles.
1036	Brown & Seiter.....	Cincinnati, O.....	Tobacco.
1037	Kenton Iron Co.....	Newport, Ky.....	Pig Iron.
1038	Kenton Iron Co.....	".....	Iron Ore.
1039	L. S. Carter	Cincinnati, O.....	Worsted Picture.
1040	Foerster & Perkins	".....	Crackers.
1041	S. Espach.....	".....	Iron Bedstead.
1042	Mrs. M. H. Willeke.....	".....	Worsted Picture.
1043	A. F. Gibboney.....	Belleville, Pa.....	Cotton and Wool Carriage Robes.
1044	John S. Thornton	Cincinnati, O.....	Manufactured Deer and Sheep Skins.
1045	W. H. Kirby.....	".....	Buck, Sheep, Kid, Dog, and Calf Skin Gloves.
1046	Kinker & Co.....	".....	Top Buggy.
1047	Pollard & Mullaney.....	".....	Bird Cages and Wire Goods.
1048	Albert Krell.....	".....	Pianos (Exhibition only).
1049	Louisa Ritter.....	".....	Net-Work Tidies.
1050	Louisa Ritter.....	".....	Crayon Drawing.
1051	Gross, Yingsling & Gross.....	Tiffin, O.....	Self-Adjusting Car Window Frames and Sash.
1052	J. T. Sullivan & Bro.....	Cincinnati, O.....	Leaf Tobacco.
1053	Traber & Aubery	".....	Pig Iron Ore and Pig Iron Beam.
1054	Traber & Aubery	".....	Iron Cotton Beam and Warehouse Trucks.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
1055	24	Traber & Aubery.....	Cincinnati, O.....	Fire Brick and Horseshoes.
1056	21	Miss Mason.....	".....	Quilt.
1057	21	Miss Abbie J. Colton.....	".....	Lace Collar.
1058	11	Henry Eilers.....	".....	Spring Mattresses.
1059	6	Kenton Iron Co.....	Newport, Ky.....	Pig Iron.
1060	21	Mrs. John Wynne.....	Cincinnati, O.....	Crochet Bed Quilt.
1061	19	Leon Van Loo.....	".....	Photographic Portraits in Oil and Water Colors.
1062	19	Leon Van Loo.....	".....	Rembrandt and Plain Photographs.
1063	19	William Winter.....	".....	Photographs Painted in Water Colors.
1064	2	Adams, Peckover & Co.....	".....	Coal and Wood Cooking and Heating Stoves.
1065	16	W. J. M. Gordon.....	".....	Chemicals and Drugs.
1066	11	Waters & Barrett.....	".....	Tubs and Washboards.
1067	5	Samuel Males.....	".....	Urinal Bowls with Improved Detachment Strainer.
1068	11	Mitchell & Rammelsberg Furniture Co..	".....	Rosewood Bedstead and Bureau.
1069	11	Mitchell & Rammelsberg Furniture Co..	".....	Maple Bedstead and Sideboard.
1070	11	Mitchell & Rammelsberg Furniture Co..	".....	Extension Table and Rosewood Book Case.
1071	11	Mitchell & Rammelsberg Furniture Co..	".....	Gilt Pier Glass and Mantel.
1072	11	Mitchell & Rammelsberg Furniture Co..	".....	Gilt Baguet and Rosewood Parlor Set (Exhibition only).
1073	11	Mitchell & Rammelsberg Furniture Co..	".....	Rosewood Parlor Table and Swinging Crib.
1074	11	Mitchell & Rammelsberg Furniture Co..	".....	Folding Bed Lounge and Reclining Chair.
1075	11	Mitchell & Rammelsberg Furniture Co..	".....	Parlor, Desk and Library Chairs.
1076	11	Mitchell & Rammelsberg Furniture Co..	".....	Parlor Stands (Exhibition only).
1077	11	Mitchell & Rammelsberg Furniture Co..	".....	Corner Etagere, Mattress, Hat Rack, etc. [hib. only].
1078	11	Mitchell & Rammelsberg Furniture Co..	".....	Work-Stands, Vases, Flower Imitations, Lace Curtains (Ex-
1079	10	Harry R. Smith & Co.....	".....	Watches, Watch Movements, and Silver Ware.
1081	4	Samuel Males.....	".....	Shutter Brick.
1082	10	W. Voss.....	".....	Eight Day Alarm Clock.
1083	3	Mosler, Bahmann & Co.....	".....	Safes and Safe Locks.
1084	12	Hemingray Glass Co.....	".....	Glass Ware.

1085	13	Hulbert Bros. & Co.....	Cincinnati, O.....	Carriage Robe.
1086	23	Hulbert Bros. & Co.....	".....	Fancy Knit Tidy.
1087	23	Hulbert Bros. & Co.....	".....	Fancy Knit Goods.
1088	23	Hulbert Bros. & Co.....	".....	Hoisery.
1089	5	Sellew & Co.....	".....	Coppersmith and Tinnners' Solder.
1090	24	Sellew & Co.....	".....	Slab Zinc.
1091	23	Charles F. L. Baehrens	".....	Wood Tea Tray.
1092	18	Lindeman & Sons.....	New York City	Cycloid Pianos.
1093	21	Mrs. E. Draper.....	Cincinnati, O....	Knit Afghan.
1094	14	Nichols, Burtnett & Co.....	New York City	Case of Furs.
1095	16	M. Werk & Co.....	Cincinnati, O.....	Soap and Candles.
1096	22	M. Werk & Co.....	".....	Native Wines.
1097	5	J. Van & Symonds.....	".....	Hotel Copper Ware.
1098	19	Charles Koernlein.....	".....	Engraving and Dies.
1099	13	Lawrenceburg Woolen Manufact'g Co..	Lawrenceburg, Ind..	Fancy Cassimeres.
1100	9	C. Bodman & Co.....	Cincinnati, O.....	Hogshead Leaf Tobacco.
1101	24	G. W. Gladden.....	".....	Elastic Roofing.
1102	24	G. W. Gladden.....	".....	Patent Tar.
1103	16	G. W. Gladden.....	".....	Patent Lubricating Oil.
1104	10	D. Kinsey.....	".....	Silver Ware.
1105	21	Mrs. M. T. Hough.....	".....	Bed Quilt.
1106	11	Mueller & Henning.....	".....	Marble Mantels.
1107	6	Samuel Danks, of Cin'ti Rail Mill Co..	".....	Puddle Balls, Steel and Iron Bloom and Ingots, Illustrating Revolving Puddling Furnace.
1108	6	Cincinnati Rail Mill Co.....	".....	Railroad Bars of Homogenous Iron and Steel.
1109	14	B. Placke & Co.....	".....	Silk Hats.
1110	19	Tuchfarber & Moellman.....	".....	Show Card on Iron.
1111	5	Dayton Malleable Iron Co.....	Dayton, O.....	Iron Castings.
1112	19	Henry Farny.....	Cincinnati, O.....	Oil Painting.
1113	22	N. A. Wittman.....	".....	Chocolate.
1114	7	Michael Eckert.....	".....	Leather.
1115	9	Seiter Bros.....	".....	Fine Cut and Smoking Tobacco.
1116	10	J. B. Schroder.....	".....	Burglar Alarm.
1117	9	Mitchell & Co.....	".....	Old Congress Brand Tobacco.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
1118	9	Mitchell & Co.....	Cincinnati, O.....	Continental Brand Tobacco.
1119	24	James Meuttman.....[DeHan.	"	Sign Painting.
1120	19	John J. DeHan, of Bryant, Stratton &	"	Penmanship.
1121	24	C. Schmidt & Co.....	"	Patent Charcoal Pipes.
1122	7	McCollum & Co.....	"	Ladies' and Misses Machine-Sewed Boots.
1123	11	Henry Schlotman.....	"	Window Shades.
1124	10	Peter Neff, Jr.....	"	Burglar Alarm Telegraph and House Bell Enunciator.
1125	21	Mrs. Walker.....	"	Case of Ferns.
1126	21	Mrs. Walker.....	"	Cross made of Ferns.
1127	21	Miss Kate Davis.....	"	Quilt.
1128	19	Watson Karr.....	Delaware, O.....	Crayon Portrait.
1129	4	James Griffith & Son.....	Cincinnati, O.....	Doors and Window Shutters.
1130	14	Jeffras, Seeley & Co.....	"	Velvet, Satin, Silk, Ribbons, and Plaid Velvet (Exhib. only).
1131	14	Jeffras, Seeley & Co.....	"	Kid Gloves (Exhibition only).
1132	14	Jeffras, Seeley & Co.....	"	Cloaks and Pieces of Cloaking.
1133	20	Byron Weston.....	Dalton, Mass.....	Blank Book Paper.
1134	20	Dennison & Co.....	Boston, Mass.....	Shipping and Merchandise Tags.
1135	20	Wilstach, Baldwin & Co.....	Cincinnati, O.....	Books.
1136	4	Julius Katz.....	"	Wood Planes.
1137	18	Biere & Seibel.....	"	Piano Forte Stool and Cover.
1138	10	Chas. G. Manning.....	"	Masonic Supplies.
1139	19	American Bank-Note Co.....	"	Lithographing.
1140	2	Redway & Burton.....	"	Wood Cooking Stove.
1141	8	Alfred E. Smith.....	Bronxville, N. Y.....	Steel Coach Mail Axles (Exhibition only).
1143	23	Wm Beck.....	Cincinnati, O.....	Fancy Rosettes.
1144	16	Michael Eckert.....	"	Glue.
1145	18	J. Bruce.....	"	Pianos—Parlor, Grand, and Concert Grand Upright.
1146	18	J. Bruce.....	"	Crystal Palace Grand Piano.
1147	18	J. Bruce.....	"	Square Grand Pianos and American Organs.

1148	S. G. Cobb & Co.....	Cincinnati, O.....	Plants.
1149	Geo. Thill & Co.....	".....	Hats, Caps, Furs, and Gloves.
1150	C. L. Fettweis.....	".....	Marble American Eagle.
1151	C. L. Fettweis.....	".....	Center-Piece for Mantel.
1152	Mrs. Dr. M. T. Carey.....	".....	Worsted Picture.
1153	S. Frank.....	".....	Figure Sign.
1154	Stribley & Co.....	".....	Ladies' Machine-Made Shoes.
1155	George B. Ellard.....	".....	Sleighs and Sleds.
1156	Truman B. Handy.....	".....	Specimens of Joinery.
1157	J. D. Little.....	Springfield, O.....	Specimens of Machinery Painting.
1158	J. D. Little.....	".....	Specimens of Mechanical Work.
1159	Union Omnibus and Wagon Man'fg Co.	Cincinnati, O.....	Omnibus and Platform Spring Wagon.
1160	J. O. Stanage & Co.....	".....	Vinegar.
1161	A. G. Peck.....	".....	Blackberry, Currant, Rhubarb, and Tomato Wines.
1162	Frietsch & Zeidler.....	".....	Cured Meats.
1163	Peters & Kattenhorn.....	".....	Globes and Lanterns.
1164	Miss Belle Smith.....	".....	Oil Portrait.
1165	Mrs. M. Dunham.....	".....	Wax Autumn Leaves.
1166	Miss Wilhelmina Ill.....	".....	Worsted-Worked Picture.
1167	Stearns & Foster.....	".....	Cotton Wadding.
1168	Marsh & Harwood.....	".....	Oil Vitriol.
1169	Parker & Dixon.....	".....	Mustard, Spices, and Baking Powder.
1170	G. L. Walker.....	New York City.....	Fluting Machines.
1171	G. L. Walker.....	".....	Combination Milk and Letter-Box.
1172	Arons & Minor.....	Cincinnati, O.....	Sponges.
1173	Waverly Mills.....	Philadelphia, Penn.	Yarns (Exhibition only).
1174	G. W. Tarr & Co.....	Cincinnati, O.....	Woolen Gloves and Pulse Warmers.
1175	Warren Richards.....	".....	Screw Press and Seal Lever Presses.
1176	Warren Richards.....	".....	Impression of Seal Work.
1177	John Latsch.....	".....	Shoe Lasts.
1178	Robert Leslie.....	".....	Gents' Furnishing Goods.
1179	John Clark, Jr. & Co.....	New York City.....	Spool Cotton.
1180	Kraft & Moore.....	Parkersburg, W. Va.	Lubricating Oil.
1181	A. Darling.....	Cincinnati, O.....	Self-Setting Rat or Game Trap.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Name of Exhibitor.	Residence.	Articles Exhibited.
1182	16	T. W. Sutton.....	Cincinnati, O.....	Baking Powder.
1183	24	F. W. Rutz.....	".....	Belgian Canaries.
1184	2	Redway & Burton.....	".....	Early Breakfast Wood Cooking Stove.
1185	2	Redway & Burton.....	".....	Great Republic Wood Cooking Stove.
1186	2	Redway & Burton.....	".....	Great Republic Wood Cooking Stoves, Extension Tops.
1187	2	Redway & Burton.....	".....	Coal and Wood Cooking Stove.
1188	2	Redway & Burton.....	".....	Open Front Stoves, Enameled, for Coal.
1189	2	Redway & Burton.....	".....	Plain Open Front Stoves for Coal.
1190	4	J. L. Henderson.....	Covington, Ky.....	Frame for Supporting Hearths.
1191	24	John Kauffman & Co.....	Cincinnati, O.....	Beer.
1192	2	Redway & Burton.....	".....	Open Front Stoves for Wood.
1193	19	School of Design McMicken University	".....	Group of Crayon Drawings.
1194	2	Redway & Burton.....	".....	Parlor Cook Stove for Coal.
1195	2	Redway & Burton.....	".....	Coal and Wood Parlor Cooking Stove.
1196	8	Jos. Clare & Co.....	Bethel, O.....	Saddle Trees.
1197	2	Redway & Burton.....	Cincinnati, O.....	Common Coal Stove.
1198	21	Mrs. T. B. Richards.....	".....	Wax Work.
1199	21	Mrs. W. H. Bristol.....	".....	Easter Morning Cross and Bouquet (Wax Work).
1200	2	Redway & Burton.....	".....	Coal Parlor Stove.
1201	2	Redway & Burton.....	".....	Dwarf Stoves for Coal.
1202	2	Redway & Burton.....	".....	Parlor Stove, Sheet Iron, for Wood.
1203	19	Miss S. H. O'Hara.....	Ursuline, Brown Co.	Oil Paintings.
1204	19	Miss S. H. O'Hara.....	" [O.	Crayon Drawings.
1205	19	Miss S. H. O'Hara.....	".....	Colored Crayon Drawing.
1206	21	Miss S. H. O'Hara.....	".....	Circular Bead Stand.
1207	7	J. F. Forbus & Co.....	".....	Sheep Skins.
1208	2	McDonald & Murphy.....	".....	Adjustable Stove Shelf on Cooking Stove.
1209	21	Cedar Grove Academy.....	".....	Needle Work.
1210	10	John D. Caldwell.....	Cincinnati, O.....	Masonic Goods.

1211	24	G. D. V. Rollo & Co	Cincinnati, O	Wooden Water and Gas Pipe.
1212	16	G. D. V. Rollo & Co	"	Lubricating and Burning Oils.
1213	10	Wm. Autenrieth.....	"	Surgical Instruments.
1214	14	J. F. Moorbrink.....	"	Specimen of a Coat.
1215	7	G. R. Martin & Sons	"	Fair Leather.
1216	21	Rebecca Meeds	"	Quilt.
1217	2	W. C. Davis & Co.....	"	Cooking Stoves and Warming Ovens.
1218	2	W. C. Davis & Co.....	"	Shelf Cover, Tea Kettles.
1219	16	American Graphite Co.....	New York City.....	Plumbago for Lubricating Machinery.
1220	10	Manning, Robinson & Co.....	Cincinnati, O.....	Silver-Plated Ware.
1221	16	American Graphite Co.....	New York City	Plumbago Grease for Lubricating Machinery.
1222	16	American Graphite Co.	"	Graphite Axle Grease.
1223	19	J. & W. Vincent.....	Cincinnati, O	Plain Photographs.
1224	8	Decamp, Perkins & Levoy	"	Saddles and Harness.
1225	8	J. W. Gosling.	"	Basket Phaeton & Clarence Rockaway.
1226	5	W. L. Fish.....	Springfield, Mass....	Tobacco Watering Pail or Sprinkler.
1227	11	Henry Billermann.....	Cincinnati, O	List Carpet.
1228	23	B. F. Turner & Co.....	"	Dry Goods.
1229	2	Redway & Burton.....	"	Parlor Stoves for Coal and Wood.
1230	2	Redway & Burton.....	"	Charcoal Furnace.
1231	15	Coffin & Woodward.....	Boston, Mass.....	Union Power Capstan.
1232	15	Dr. Reim.....	Springfield, O	Hydrostatic Scale.
1233	8	John Roberts.....	Cincinnati, O	Family Carriage.
1234	11	A. D. Bullock & Co.....	"	Curled Hair.
1235	24	A. D. Bullock & Co.....	"	Bristles.
1236	24	Chas. S. Cheever.....	"	Paper Boxes.
1237	21	George Atkins.....	"	Embroidery and Chenille Work.
1238	24	Crane, Breed & Co.....	"	Coffin Trimmings.
1239	21	Mary Lender.....	"	Bouquet of Ferns.
1240	7	Bell, Rifenberg & Co.....	"	Ladies' Misses', and Children's Shoes.
1241	24	Nourse, White & Co.....	Westboro, Mass.....	Trellises for Plants.
1242	24	Hunnewell Cannel Coal Co.....	"	Cannel Coal.
1243	6	Pennsylvania & Hunnewell Furnaces..	"	Pig Iron.
1244	9	Mitchell & Co.....	Cincinnati, O	Tobacco.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1245	24	.....	Mrs. D. A. Mitchell.....	Cincinnati, O.....	Geological Specimens.
1246	19	.....	Israel Quick.....	"	Portraits in Oil.
1247	8	.....	Joseph Seifrit.....	"	Beer Wagon.
1248	14	.....	Daniels & Coombe.....	"	Clothing and Furnishing Goods.
1249	19	.....	Edward Carlson.....	"	Engravings.
1250	21	.....	Mrs. Charles Folger.....	"	Wax Leaves.
1251	18	.....	D. H. Baldwin.....	"	Pianos.
1252	18	.....	D. H. Baldwin.....	"	Organs.
1253	4	.....	Howell Gano & Co.....	"	Pocket Cutlery (Exhibition only).
1254	6	.....	Roane Iron Co.....	Rockwood, Tenn.....	Iron Ore, Pig Iron, and Coal (Exhibition only).
1255	4	.....	Howell Gano & Co.....	Cincinnati, O.....	Files and Edge Tools.
1256	6	.....	Webster, Camp & Lane Machine Co.	Akron, O.....	Machinery Keys.
1257	4	.....	Howell Gano & Co.....	Cincinnati, O.....	Tools and Cutlery (Exhibition only).
1258	4	.....	Howell Gano & Co.....	"	Stephens' Patent Vises.
1259	4	.....	Smith, Kelley & Co.....	Toledo, O.....	Shingles.
1260	4	.....	Bundy & Martindale.....	East Saginaw, Mich.	Shingles.
1261	24	.....	Thomas P. Knaggs.....	Cincinnati, O.....	Graining and Marbleizing.
1262	4	.....	Bodley, Avery & Co.....	Toledo, O.....	Pine Plank.
1263	4	.....	D. F. Rose.....	East Saginaw, Mich.	Pine Plank.
1264	19	.....	T. S. Noble.....	Cincinnati, O.....	Oil Painting.
1265	2	.....	Chamberlain & Co.....	"	Beauty Cooking Range.
1266	2	.....	Chamberlain & Co.....	"	Beauty Heating Stove.
1267	2	.....	Chamberlain & Co.....	"	Oriental Stove.
1268	2	.....	Chamberlain & Co.....	"	Oriental Parlor Furnace.
1269	2	.....	Chamberlain & Co.....	"	Omaha Cooking Stove.
1270	2	.....	Chamberlain & Co.....	"	Emporia Wood Stove.
1271	21	.....	Geo. Atkins.....	Clifton, O.....	Worsted Needleworked Pictures.
1272	21	.....	Will E. Atkins.....	"	Worsted Needleworked Pictures.
1273	2	.....	Chamberlain & Co.....	Cincinnati, O.....	Charter Emporia Wood Stove.

1274	2	.....	Chamberlain & Co.....	Cincinnati, O.....	Triumph Coal Cooking Stove.
1275	2	.....	Chamberlain & Co.....	"	Magnet Coal Heating Stove.
1276	2	.....	Chamberlain & Co.....	"	Selma Sheet Iron Coal Stove.
1277	2	.....	Chamberlain & Co.....	"	Vernon Coal Stove.
1278	2	.....	Chamberlain & Co.....	"	Ohio Wood Stove.
1279	2	.....	Chamberlain & Co.....	"	Display of Cooking and Heating Stoves.
1280	2	.....	Chamberlain & Co.....	"	Charter Emporia Extension Top Stove.
1281	16	.....	Charles Moser & Co.....	"	Artists' Colors, White Lead, Zinc, and Paints.
1282	16	.....	Charles Moser & Co.....	"	Artists' Materials.
1283	14	.....	John C. Buerkle.....	"	Ladies' and Gentlemen's Furs and Skins.
1284	14	.....	John C. Buerkle.....	"	Robes.
1285	24	.....	Dr. C. S. Muscroft.....	"	Spiral Fastener for Watch Chains, etc.
1286	16	.....	Joseph Dixon Crucible Co.....	Jersey City, N. J....	Stove Polish Pencils and Plumbago.
1287	19	.....	T. S. Noble.....	Cincinnati, O.....	Painting.
1288	19	.....	W. W. Wiswell.....	"	Paintings.
1289	5	.....	B. A. Johnson.....	Jeffersonville, Ind...	Street Lantern and Stand.
1290	6	.....	Red Mt. Iron and Coal Co.....	Shelby Co., Ala.....	Coal and Iron Ore.
1291	4	.....	Red Mt. Iron and Coal Co.....	"	Marble.
1292	13	.....	Kendall & Coney.....	Sidney, O.....	Flax.
1293	8	.....	John Reid.....	Cincinnati, O.....	Saddlery and Harness.
1294	21	.....	Miss Ada Myer.....	"	Pictures on Canvass.
1295	4	.....	J. W. Whitaker.....	Columbia, O.....	Pressed Brick.
1296	8	.....	Jung & Kreutz.....	Cincinnati, O.....	Beer Wagon.
1297	16	.....	J. W. Wartman.....	Philadelphia, Penn.	Chemicals.
1298	19	.....	Charles G. Folger.....	Cincinnati, O.....	Mechanical Drawings.
1299	4	.....	Mills, Spellmire & Co.....	"	Doors, Shutters, and Porch.
1300	5	.....	Quaker Burner Co.....	Boston, Mass.....	Quaker Burner.
1301	1	3	Steptoe, McFarlan & Co.....	Cincinnati, O.....	Universal Milling Machine.
1302	1	4	J. A. Fay & Co.....	"	Large Double Cylinder Flooring Siding and Ceiling Machine.
1303	1	4	J. A. Fay & Co.....	"	Small Combined Surfacers and Floorer.
1304	1	4	J. A. Fay & Co.....	"	Circular Weatherboard Resawing Machine.
1305	1	4	J. A. Fay & Co.....	"	Band Sawing Machine.
1306	1	4	J. A. Fay & Co.....	"	Combined Strain Scroll Saw.
1307	1	4	J. A. Fay & Co.....	"	Large Moulding Machine.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1308	1	4	J. A. Fay & Co.....	Cincinnati, O.....	Medium Sash and Moulding Machine.
1309	1	4	J. A. Fay & Co.....	"	Small Sash and Door Moulding Machine.
1310	1	4	J. A. Fay & Co.....	"	Hub and Agricultural Mortiser.
1311	1	4	J. A. Fay & Co.....	"	Sash and Door Mortiser.
1312	1	4	J. A. Fay & Co.....	"	Sash Mortiser.
1313	1	4	J. A. Fay & Co.....	"	Endless Feed Surfacers.
1314	1	4	J. A. Fay & Co.....	"	Slat Tenoner for Blinds.
1315	1	4	J. A. Fay & Co.....	"	Sash and Door Tenoner.
1316	1	4	J. A. Fay & Co.....	"	Sash Tenoner.
1317	1	4	J. A. Fay & Co.....	"	Stand of Saw Mandrills.
1318	1	4	J. A. Fay & Co.....	"	Matching Knife Setter.
1319	1	4	J. A. Fay & Co.....	"	Blind Wirer.
1320	1	9	S. Longley.....	"	Street Cleaning Machine.
1321	1	6	Thos. Cottman.....	"	Michigan Double Plow.
1322	1	6	Thos. Cottman.....	"	Single Shovel Plow.
1323	1	6	Royer Wheel Co.....	"	Plow Handles.
1324	1	9	Thos. Mills & Bro.....	Philadelphia, Penn.	Large Ice Cream Machine.
1325	1	1	H. & F. Blandy.....	Zanesville, O.....	Farm and Plantation Steam Engine.
1326	1	8	H. P. Straub.....	Cincinnati, O.....	Grist Mills and Mill Picks.
1327	1	1	J. L. Paige.....	Rochester, N. Y.....	Steam Boiler Arch.
1328	1	1	Connor & Wickwire.....	Cincinnati, O.....	Sabraton Boiler Covering.
1329	1	9	D. W. Whipple.....	"	Tire Upsetters.
1330	1	9	D. W. Whipple.....	"	Tire Bender.
1331	1	1	E. H. Ashcroft.....	Boston, Mass.....	Low Water Detector.
1332	1	4	C. H. Stockell.....	Nashville, Tenn.....	Picket Pointing Machine.
1333	1	1	Corderman & Dierker.....	Cincinnati, O.....	Steam Engine.
1334	1	9	Corderman & Dierker.....	"	Bark Mill.
1335	1	9	Perkins & Co.....	"	Creasing Machines.
1336	1	9	Perkins & Co.....	"	Saddlers' Stitching Horses.

1337	1	9	Perkins & Co.....	Cincinnati, O.....	Hair Beaters.
1338	1	7	Ætna Sewing Machine Co.....	".....	Sewing Machines.
1339	1	1	Berryman Regulator & Alarm Co.	Hartford, Conn.....	Automatic Steam Boiler Feeder.
1340	1	1	Berryman Regulator & Alarm Co.	".....	Automatic Low Water Alarm.
1341	1	1	Berryman Regulator & Alarm Co.	".....	Automatic Steam Trap.
1342	1	5	J. P. Lindsay.....	Cincinnati, O.....	Job Press.
1343	1	2	J. H. McGowan & Co.....	".....	Pumps.
1344	1	7	Hulbert Bros. & Co.....	".....	Lamb Knitting Machines.
1345	1	9	J. C. Reed.....	".....	Model of Bolt and Rivet Machine.
1346	1	9	J. C. Reed.....	".....	Machines for Propelling Canal Boats.
1347	1	3	H. A. Glassford & Co.....	".....	Engine Lathes.
1348	1	3	H. A. Glassford & Co.....	".....	Hand Lathe.
1349	1	3	H. A. Glassford & Co.....	".....	Index Milling Machine.
1350	1	3	H. A. Glassford & Co.....	".....	Planer.
1351	1	3	H. A. Glassford & Co.....	".....	No. 1 Bolt Cutter.
1352	1	3	H. A. Glassford & Co.....	".....	No. 1 Hand Lever Punch.
1353	1	3	H. A. Glassford & Co.....	".....	No. 4 Hand Lever Punch.
1354	1	3	H. A. Glassford & Co.....	".....	No. 1 Hand Lever Shear.
1355	1	3	H. A. Glassford & Co.....	".....	No. 4 Hand Lever Shear.
1356	1	1	H. A. Glassford & Co.....	".....	Pracey Governor.
1357	1	3	H. A. Glassford & Co.....	".....	Nine-Inch 4 Jaw Lathe Chuck.
1358	1	3	H. A. Glassford & Co.....	".....	Jewelers' Lathe.
1359	1	9	H. A. Glassford & Co.....	".....	Patent Jack Screws.
1360	1	1	H. A. Glassford & Co.....	".....	Bronze Slide Stop Valves.
1361	1	3	H. A. Glassford & Co.....	".....	Hand Drills.
1362	1	1	H. A. Glassford & Co.....	".....	No. 3 Special Steam Pump.
1363	1	4	H. A. Glassford & Co.....	".....	No. 1 Woodworth Planer and Matcher.
1364	1	4	H. A. Glassford & Co.....	".....	Saw Arbors.
1365	1	1	H. A. Glassford & Co.....	".....	Iron and Bronze Slide Stop Valve.
1366	1	9	H. A. Glassford & Co.....	".....	Patent Lubricators.
1367	1	1	H. A. Glassford & Co.....	".....	Winans' Patent Anti-Incrustation Powder.
1368	1	3	W. G. Hyndman.....	".....	Blacksmiths' Bellows.
1369	1	3	W. G. Hyndman.....	".....	Patented Portable Forge.
1370	1	1	Vanduzen & Tift.....	".....	Water Gauges.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1371	1	6	F. Wickersham.....	Xenia, O.....	Corn Planters.
1372	1	6	Industrial Plow Co.....	St. Louis, Mo.....	Single Shovel Plow.
1373	1	6	Industrial Plow Co.....	"	Double Shovel Plow.
1374	1	6	Industrial Plow Co.....	"	Trip Plow.
1375	1	6	Industrial Plow Co.....	"	No. 7 Plow.
1376	1	6	Industrial Plow Co.....	"	No. 11 Plow.
1377	1	6	Industrial Plow Co.....	"	Eight-Inch Cotton Plow.
1378	1	6	Industrial Plow Co.....	"	Twelve-Inch Breaker Plow.
1379	1	6	Industrial Plow Co.....	"	C No. 12 Plow.
1380	1	2	Samuel Cummings & Son.....	Cincinnati, O.....	Fire Plugs.
1381	1	1	P. H. Ryan.....	"	Boiler Flue Cleaner.
1382	1	1	William Perry..	N. Bridgewater, Mas	Patent Steam Digester.
1383	1	9	C. G. Forshey.....	Galveston, Texas.....	Gilman's Liquor Ager and Purifier.
1384	1	9	Jeremiah Darling.....	Cincinnati, O.....	Apparatus to Prevent Boiler Explosion.
1385	1	8	Frederick Wolf.....	"	Flour Packing Machine.
1386	1	1	L. Steigert... ..	"	Water Regulator.
1387	1	9	L. Steigert.....	"	Meat Chopping Machine.
1388	1	3	Starns & Moseley.....	Franklin, Tenn.....	Blacksmiths' Forge.
1389	1	3	Starns & Moseley.....	"	Silversmiths' Forge.
1390	1	3	Starns & Moseley.....	"	Boiler Makers' Forge.
1391	1	6	John B. Barnes.....	Covington, Ky.....	Corn Mill.
1392	1	9	Nathan & Dreyfus.....	New York City.....	Lubricators.
1393	1	9	J. C. Davison.....	Chicago, Ill.....	Excelsior Fire Extinguisher.
1394	1	3	Niles Tool Works.....	Cincinnati, O.....	Eight-Foot Boring and Turning Machine.
1395	1	3	Niles Tool Works.....	"	Twenty-Six-Foot Swing Engine Lathe.
1396	1	3	Niles Tool Works.....	"	Gray's Patent Universal Drilling (Radial) Machine.
1397	1	4	M. G. Ogden.....	"	Portable Scroll Saw (Exhibition only).
1398	1	4	M. G. Ogden.....	"	Portable Foot Power Scroll Saw.
1399	1	6	C. P. Hale.....	Calhoun, Ky.....	Raking, Scraping, Loading, and Elevating Machine.

1400	1	6	C. P. Hale.....	Calhoun, Ky.....	Sorghum Stripper.
1401	1	9	R. E. Kennedy.....	Cincinnati, O.....	Model of Railroad Fire Proof Car.
1402	1	9	Wm. G. Taylor.....	Maysville, Ky.....	Combination Roller and Ice Skate.
1403	1	5	Allison, Smith & Johnson.....	Cincinnati, O.....	No. 40 Case Printers' Cabinet.
1404	1	8	W. Gardner.....	Green Co., Ky.....	Model of Thrasher, Separator, and Cleaner.
1405	1	6	Howell Gano & Co.....	Cincinnati, O.....	Eagle Straw Cutters.
1406	1	6	Howell Gano & Co.....	".....	Hageman's Patent Iron Measurers.
1407	1	6	Howell Gano & Co.....	".....	Nangle & Ollman's Patent Hoes.
1408	1	6	Howell Gano & Co.....	".....	Nangle & Ollman's Patent Cultivator.
1409	1	6	Coffin & Standish.....	Boston, Mass.....	Steam Plow.
1410	1	3	H. A. Glassford & Co.....	Cincinnati, O.....	Ratchet Braces.
1411	1	3	H. A. Glassford & Co.....	".....	Scroll Chuck.
1412	1	6	George C. Miller & Co.....	".....	Plow Moulds, Shears, etc.
1413	1	9	John E. Smith.....	Buffalo, N. Y.....	Steam Sausage Machine.
1414	1	3	H. A. Glassford & Co.....	Cincinnati, O.....	Patent Double Swivel Vises.
1415	1	1	Yeo & Shoemaker.....	Richmond, Ind.....	Portable Engine.
1416	1	6	F. Decker.....	Delaware, O.....	Model of Clover and Grass Seed Harvester.
1417	1	6	John W. Corwin.....	Lebanon, O.....	Potato Digger.
1418	1	8	Alex. Fries.....	Cincinnati, O.....	Model of Hoisting Machine.
1419	1	6	Howell Gano & Co.....	".....	Blood Scythes.
1420	1	6	H. R. Kinney.....	Portsmouth, O.....	Harrow.
1421	1	2	Geo. D. Winchell, Upson & Co.....	Cincinnati, O.....	Coal Oil Can.
1422	1	6	Charles C. Winchell & Co.....	".....	Eagle Straw Cutters (Hand).
1423	1	6	Charles C. Winchell & Co.....	".....	Eagle Straw Cutters (Steam).
1424	1	9	Charles C. Winchell & Co.....	".....	Plug Tobacco Machine.
1425	1	1	H. A. Glassford & Co.....	".....	Steam Pump.
1426	1	6	J. Wilder & Co.....	".....	Sulky Hay Rake.
1427	1	6	J. Wilder & Co.....	".....	Harpoon Horse Pitchfork.
1428	1	6	J. Wilder & Co.....	".....	Sod Plow.
1429	1	6	J. Wilder & Co.....	".....	General Purpose Plow.
1430	1	6	J. Wilder & Co.....	".....	Display of Field Seeds.
1431	1	5	J. Wilder & Co.....	".....	Straw, Rag, and Rope Cutter.
1432	1	6	F. M. Stearns.....	Berea, O.....	Scythe and Kitchen Stones.
1433	1	3	Charles Berckhemer.....	Cincinnati, O.....	Jack Screws.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1434	1	6	Wm. H. Payne.....	Janesville, Wis.....	Grain Binder.
1435	1	9	B. F. Hughes.....	Springfield, O.....	Washing Machine.
1437	1	9	Weeden & Tribe.....	Hillsdale, Mich.....	Cloth Measuring Machine.
1438	1	6	Louis Ronat.....	Pendleton, O.....	Harrow and Plow Model.
1439	1	1	Swift's Iron and Steel Works.....	Cincinnati, O.....	Boiler Head.
1440	1	4	John B. Barnes.....	Covington, Ky.....	Stave Dressing Machine.
1441	1	9	Wm. Leitch.....	Cincinnati, O.....	Whetting Machine.
1442	1	4	H. & F. Blandy.....	Zanesville, O.....	Circular Saw Mill.
1443	1	9	J. Meehan.....	Covington, Ky.....	Oil Cup.
1444	1	7	Geo. Rafus.....	Philadelphia, Penn.	Machine for making Braid.
1445	1	9	E. Whitehead, Sen.....	Cincinnati, O.....	Car Brake.
1446	1	2	Stout, Mills & Temple.....	Dayton, O.....	American Turbine Water Wheel.
1447	1	6	Clark Sintz.....	Springfield, O.....	Star Corn and Cotton Plow and Cultivator.
1448	1	6	C. & H. S. Hoeller.....	Cincinnati, O.....	Elbow Bending Machine.
1449	1	1	Fewlass & Hodgson.....	".....	Metallic Packing for Piston and Valve Rods.
1450	1	1	Fewlass & Hodgson.....	".....	Water Gauge and Gauge Cocks Combined.
1451	1	7	Child Bros.....	Dayton, O.....	Domestic Sewing Machine.
1452	1	9	Green & Lewis.....	Cincinnati, O.....	Horseshoe Machine.
1453	1	1	Lane & Bodley.....	".....	Portable Engines.
1454	1	1	Lane & Bodley.....	".....	Stationary Engines.
1455	1	4	Lane & Bodley.....	".....	Saw Mills.
1456	1	4	Lane & Bodley.....	".....	Head Blocks.
1457	1	4	Lane & Bodley.....	".....	Power Mortising Machine.
1458	1	4	Lane & Bodley.....	".....	Railway Cut-off Saw Machines.
1459	1	4	Lane & Bodley.....	".....	Lathe Machine.
1460	1	4	Lane & Bodley.....	".....	Bolting Saw.
1461	1	9	Lane & Bodley.....	".....	Shaftings, Hangers, Pulleys, and Couplings.
1462	1	3	Barnet & Snyder.....	Lafayette, Ind.....	Scheussler Patent Bolt Cutter.
1463	1	4	Sharps, Davis & Bonsall.....	Salem, O.....	Shingle Jointer.

1464	1	6	A. Pelham.....	Tecumseh, Mich.....	Revolving Horse Rake.
1465	1	1	Gaar, Scott & Co.....	Richmond, Ind.....	Portable Steam Engine.
1466	1	6	Thos. Cottman.....	Cincinnati, O.....	Road Plow.
1467	1	1	John Porteous.....	"	Self-Acting Cylinder Cock.
1468	1	1	G. S. Nevins.....	Bushnell, Ill.....	Speed Indicator.
1469	1	9	W. P. Hopkins.....	Lawrence, Mass.....	Steps for Spindles and Patent Callipers.
1470	1	1	Berryman Regulator & Alarm Co.	Hartford, Conn.....	Automatic Steam Boiler Feeder.
1471	1	1	Samuel Boden.....	Louisville, Ky.....	Steam Safety Valves.
1473	1	1	H. & F. Blandy.....	Newark, O.....	Stationary Engine.
1474	1	1	Lane & Bodley.....	Cincinnati, O.....	Portable Engine.
1475	1	2	H. A. Glassford & Co.....	"	Syphon Pumps.
1476	1	1	H. A. Glassford & Co.....	"	Brown's Valve.
1477	1	6	Blymyer, Day & Co.....	Mansfield, O.....	Endless Apron Horse Power.
1478	1	6	Blymyer, Day & Co.....	"	Eight-Horse Power Lever.
1479	1	6	Blymyer, Day & Co.....	"	Grain Drill.
1480	1	6	Blymyer, Day & Co.....	"	Threshing Machine.
1481	1	6	Blymyer, Norton & Co.....	Cincinnati, O.....	Horizontal Sugar Cane Mills.
1482	1	6	Blymyer, Norton & Co.....	"	Vertical Sugar Cane Mills.
1483	1	4	Blymyer, Norton & Co.....	"	Circular Wood Sawing Machine.
1484	1	4	Blymyer, Norton & Co.....	"	One Drag Saw Mill.
1485	1	5	James L. Bransom.....	Chicago, Ill.....	Hand Loom.
1486	1	6	Empire Plow Co.....	Pittsburg, Penn.....	Plow and Cultivator.
1487	1	1	Reinshagen & Wiehl.....	Cincinnati, O.....	Low Water Indicator for Steam Boilers.
1488	1	7	James Skardon & Sons.....	"	Hall's Combined Attachm't for Binding, Hemming, Ruffling, [Tucking, etc.
1489	1	7	James Skardon & Sons.....	"	Weed Sewing Machine Attachment for making Piping.
1490	1	6	Spratt, Johnson & Co.....	Pittsburg, Penn.....	Garden Plow.
1491	1	6	Spratt, Johnson & Co.....	"	Plow and Potato Digger.
1492	1	9	A. Schlingman.....	West Alexandria, O.	Climax Washing Machine.
1493	1	1	W. S. Belt.....	Cincinnati, O.....	Low Water Alarm Indicator.
1494	1	1	John Cooper & Co.....	Mt. Vernon, O.....	Portable Steam Engine.
1495	1	8	John Cooper & Co.....	"	Grist Mill and Bolt.
1496	1	8	Lawrence Roth.....	Cincinnati, O.....	Mill Picks.
1497	1	5	James Smith & Co.....	Philadelphia, Penn.	Card Clothing.
1498	1	5	Fred. Miller.....	Providence, R. I.....	Reeds and Harnesses, and Manufacturers' Supplies.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1499	1	9	Henry Poehner.....	Cincinnati, O.....	Barrel Heading Machine (Exhibition only).
1500	1	4	J. A. Fay & Co.....	".....	Vibrating Scroll Saw.
1501	6		Chas. Berckhemer.....	".....	Sheet Iron.
1502	6		Evans, Clifton & Co.....	".....	Specimens of Iron.
1503	11		David Buffum.....	Salem, Mass.....	Patent Spring Bed.
1504	24		David Buffum.....	".....	Patent Car Seat.
1505	11		Wm. P. McKee.....	Cincinnati, O.....	Fluting Machine.
1506	19		Ætna Insurance Co.....	".....	Fancy Sign.
1507	16		Powers & Weightman.....	Philadelphia, Penn.	Chemicals.
1508	10		Mrs. D. Zehnder.....	Cincinnati, O.....	Hair Jewelry.
1509	19		Hattie J. Holbrook.....	".....	Medallion and Landscape Painting.
1510	19		Hattie J. Holbrook.....	".....	Landscapes.
1511	24		C. A. McLaughlin.....	Covington, Ky.....	Mastadon Tusks, Teeth, and Bones (Exhibition only).
1512	19		Hattie J. Holbrook.....	Cincinnati, O.....	Portraits, Flower Pieces, etc.
1513	14		Taylor, Miller & Co.....	".....	Ladies', Gentlemen's, and Children's Furnishing Goods.
1514	9		McBeth, Shaffer & Co.....	".....	Iron Clad Tobacco Moulds.
1515	10		Steinberg & Mayer.....	".....	Ladies' and Gentlemen's Wigs.
1516	24		Alva H. Doane.....	".....	Miniature Steamboat.
1517	21		Miss M. M. Sterritt.....	".....	Pictures in Worsteds.
1518	5		J. H. McMullin.....	Louisville, Ky.....	Kentucky Stock Bells.
1519	20		J. F. Saunders & Co.....	Cincinnati, O.....	Books, Printing, and Binding.
1520	11		E. Wiswell.....	".....	Sideboards.
1521	10		Geo. W. Bishop.....	".....	Bricks of Pure Silver.
1522	19		W. A. Marks.....	".....	Plaster Figures.
1523	11		N. O. Donald.....	".....	Patent Lapboards.
1524	13		Owens & Tinsley.....	Eminence, Ky.....	Jeans.
1525	21		Mrs. W. F. Kelly.....	Cincinnati, O.....	Quilt.
1526	13		Mission and Pacific Woolen Mills.	San Francisco, Cal..	Blankets and Robes.
1527	13		Batesville Man'g Co.....	Charleston, S. C.....	Muslins.

1528	.....	Bowling Green Woolen Manuf. Co.	Bowling Green, Ky.	Jeans.
1529	.....	Dunlap & Co.	New York City	Opera Hats.
1530	.....	Rhamir & Co.	"	Cloth Hats and Caps.
1531	.....	Paul Frick	Jonesboro, Ill.	Mechanical Puzzle in Bottle.
1532	.....	M. Greenwood & Co.	Cincinnati, O.	Iron and Choppers.
1533	.....	M. Greenwood & Co.	"	Fluting Machines and Iron Stands.
1534	.....	M. Greenwood & Co.	"	Meat Stuffers, for Butchers' use.
1535	.....	M. Greenwood & Co.	"	Stools.
1536	.....	M. Greenwood & Co.	"	Canterbury for Music Books.
1537	.....	M. Greenwood & Co.	"	Hanging Flower Basket and Flower Pot Stands.
1538	.....	M. Greenwood & Co.	"	Building Hardware.
1539	.....	M. Greenwood & Co.	"	Building Hardware.
1540	.....	M. Greenwood & Co.	"	Malleable Gray Iron Castings.
1541	.....	M. Greenwood & Co.	"	Leather Belting.
1542	.....	M. Greenwood & Co.	"	Garden Settees and Verandah Seat.
1543	.....	M. Greenwood & Co.	"	Ornamental Housekeeping Hardware.
1544	.....	Geo. H. Seymour	Indianapolis, Ind.	Seymour's Patent Car Brake.
1545	.....	Samuel J. Spray	Cleveland, O.	Wagon and Sleigh Stake.
1546	.....	M. Greenwood & Co.	Cincinnati, O.	Close Plating.
1547	.....	M. Greenwood & Co.	"	Stove Pipe Cylinder and Ventilator.
1548	.....	Samuel Miller	Gratis, O.	Combination Door and Safe Lock and Latch.
1549	.....	E. C. Chapman	Lacon, Ill.	Stove Pipe Chimney, Thimble, and Ventilator.
1550	.....	Ventilating Water-proof Shoe Co.	Boston, Mass.	Water-proof Cloth Boots and Cloth.
1551	.....	Wilcoxon Manuf'g Co.	Newman, Ga.	Cotton and Knitting Yarns.
1552	.....	Dr. Waldo	Cincinnati, O.	Artificial Human Eyes.
1553	.....	Rev. Hooeken	"	Painting.
1554	.....	William Winter	"	Water Colored Portraits and Ivory Paintings.
1555	.....	Mrs. L. E. R. Jones	"	Bouquet of Skeleton Leaves.
1556	.....	Chas. A. Bauer	"	Mechanical Drawing.
1557	.....	H. Kuhlman	"	One Churn.
1558	.....	Mrs. M. J. Richardson	"	Hair Wreath.
1559	.....	C. H. Grainger	"	Graining and Marbling.
1560	.....	J. Q. Jaynes	"	Patent Paper Burner.
1561	.....	Jacob Anselm	"	Oil Paintings.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1562	24	.....	Oscar Warden.....	Cincinnati, O.....	Calcium Light.
1563	21	.....	Margaret Fellner and Mrs. B. Schwartz.....	".....	Feather Wreath.
1564	21	.....	Margaret Fellner and Mrs. B. Schwartz.....	".....	Grass Wreath.
1565	5	.....	C. S. Tallmadge & Co.....	".....	Lamps, Chandeliers, and Gas-Cooking Apparatus.
1566	24	.....	C. S. Tallmadge & Co.....	".....	Soda Fountain.
1567	21	.....	Miss M. Miles.....	".....	Cross.
1568	21	.....	Miss M. Miles.....	".....	Autumn Leaves.
1569	4	.....	Schoenberger & Co.....	".....	Cut Nails and Spikes.
1570	6	.....	Shoenberger & Co.....	".....	Machine-Made Horseshoes and Toe Calks.
1571	24	.....	L. M. Fish.....	".....	Rose Crystal Marble.
1572	11	.....	A. P. C. Bonte.....	".....	Pier Glass, Picture Frames, and Bouquet Stands.
1573	19	.....	A. P. C. Bonte.....	".....	Embellishment above-named Articles.
1574	6	.....	E. Whitehead, Sen.....	".....	Horseshoes.
1575	6	.....	E. Whitehead, Sen.....	".....	Iron Gutter Pipes.
1576	24	.....	E. Whitehead, Sen.....	".....	Wood Pavement.
1577	11	.....	H. C. Richards.....	".....	Corner Protector for Houses.
1578	6	.....	Tomotla Iron Works.....	Cherokee Co., N. C..	Iron and Iron Ore.
1579	24	.....	Tomotla Iron Works.....	".....	Gold Quartz.
1581	21	.....	Mrs. N. J. Sheppard.....	Petersburg, Ky.	Counterpane, Comfort, and Quilt.
1582	14	.....	W. C. Bassenhorst.....	Cincinnati, O.....	Overcoat (Exhibition only).
1583	5	.....	W. S. Carr & Co.....	New York City	Plumbers' Goods.
1584	2	.....	Mears, Olhaber & Co.....	Cincinnati, O.....	Continental Cook Stove.
1585	2	.....	Mears, Olhaber & Co.....	".....	Telegraph Coal Cook Stove.
1586	2	.....	Mears, Olhaber & Co.....	".....	Parlor Coal Cook Stove.
1587	2	.....	Mears, Olhaber & Co.....	".....	Sheet Iron Heating Stove.
1588	2	.....	Mears, Olhaber & Co.....	".....	Coal Heating Stove.
1589	2	.....	Mears, Olhaber & Co.....	".....	Ætna Coal Stove.

1590	.....	Mears, Olhaber & Co.....	Cincinnati, O.....	Cheap Coal Heating Stove.
1591	11	Baeder, Adamson & Co.....	".....	Curled Hair, Sand Paper, Glue, etc.
1592	5	Wm. Lynn & Co.....	".....	Chandeliers.
1593	5	Wm. Lynn & Co.....	".....	Portable Stands.
1594	5	Wm. Lynn & Co.....	".....	Fancy Brackets.
1595	5	Wm. Lynn & Co.....	".....	Study Lamps.
1596	5	Wm. Lynn & Co.....	".....	Bronzes.
1597	5	Wm. Lynn & Co.....	".....	Gas Shades.
1598	5	Wm. Lynn & Co.....	".....	Paper Weights.
1599	5	Wm. Lynn & Co.....	".....	Arch Decorated with Globes.
1600	19	Miss Hattie Holbrook.....	".....	Oil Paintings.
1601	5	Wm. Lynn & Co.....	".....	Silvered Dome Reflector.
1602	5	Wm. Lynn & Co.....	".....	Silvered Window Reflector.
1603	13	Oldham & Scott Cotton Mills.....	Lexington, Ky.....	Cotton Yarns.
1604	13	Oldham & Scott Cotton Mills.....	".....	Pound Yarns.
1605	13	Oldham & Scott Cotton Mills.....	".....	Coverlet and Carpet Warp.
1606	13	Eagle Cotton Mills.....	Lawrenceburg, Tenn.	Cotton Ropes and Yarns.
1607	13	Eagle Cotton Mills.....	".....	Pound Yarns.
1608	13	Franklin Cotton Mills.....	Pittsburg, Penn.....	Colored and White Carpet Warp and Cotton Batting.
1609	13	Franklin Cotton Mills.....	".....	Pound Yarns.
1610	13	Frankfort Cotton Mills.....	Frankfort, Ky.....	Yarns (Exhibition only).
1611	13	Tyrollese Woolen Mills.....	Pittsburg, Penn.....	Balmoral Skirts (Exhibition only).
1612	13	Smith & Burnham.....	New Preston, Conn..	Seine Twine (Exhibition only).
1613	24	St. Louis Shot Tower Co.....	St. Louis, Mo.....	Patent and Buckshot (Exhibition only).
1614	11	Leland & Berry.....	Boston, Mass.....	Spring Bed and Folding Bed Lounge.
1615	12	Clark & Bros.....	Cincinnati, O.....	Stoneware Pipe.
1616	6	M. Greenwood & Co.....	".....	Iron Well Curb.
1617	6	M. Greenwood & Co.....	".....	Patent Fence Butt.
1618	19	C. T. Webber.....	".....	Oil Paintings.
1619	19	Miss Mary Spencer.....	".....	Oil Paintings.
1620	11	J. C. Gaston.....	".....	Churn.
1621	24	Chas. Gooch.....	".....	Blacksmiths' Drills.
1622	10	Wm. Leitch.....	".....	Patent Alarm Gun.
1623	24	Taylor & Connell.....	".....	Firebrick and Tile.

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1624	2	.....	Fares, Miller & Young.....	Cincinnati, O.....	Broiler.
1625	24	.....	Boehle & Bro.....	".....	Barrels and Kegs.
1626	11	.....	C. B. Evans & Co.....	".....	Marbleized Mantels.
1627	21	.....	Miss Irene Gordon.....	".....	Wax Work.
1628	11	.....	Ellis & Meara.....	".....	Paper Hangings, Mouldings, Spring Mattresses, etc.
1629	6	.....	Samuel Williamson.....	".....	Lamp Posts and Sash Weights.
1630	24	.....	R. J. Ellis.....	Newport, Ky.....	Rustic Parlor Green House.
1631	13	.....	Putnam, Hooker & Co.....	Cincinnati, O.....	Cotton Yarns, Twines, etc.
1632	21	.....	Miss C. Bross.....	".....	Alpaca Plaid Shoes.
1633	24	.....	J. C. Gaston.....	".....	Bee-Hive.
1634	8	.....	Geo. C. Miller & Sons.....	".....	Carriages.
1635	19	.....	J. J. Sayre.....	".....	Stencil Plates.
1636	4	.....	Taylor & Faulkner.....	".....	Doors, Sash, Blinds, and Pulpit.
1637	24	.....	G. W. Weisman.....	".....	Express Call Sign.
1638	11	.....	Putnam, Hooker & Co.....	".....	Bed Spreads.
1639	8	.....	Guinnip, Short & Co.....	".....	Wooden Horse Collar and Combined Collar and Hame.
1640	14	.....	A. J. Clark.....	Danville, Ill.....	Shirts.
1641	14	.....	A. J. Clark.....	Cincinnati, O.....	Men's Neck Wear.
1642	24	.....	J. C. Schuler & Co.....	".....	Galvanized Iron Burial Case.
1643	10	.....	Municipal & Counting House Telegraph Co.....	Amsterdam.....	
1644	21	.....	Miss Ida Bagley.....	Cincinnati, O.....	Telegraph Instrument.
1645	5	.....	Wm. Bromwell & Co.....	".....	Worsted Picture.
1646	5	.....	Peter Schwan.....	".....	Wire Goods.
1647	21	.....	Carrie Potts and Amelia Schlitzberger.....	".....	Bird Cages.
1648	8	.....	M. A. McGuire.....	".....	Silk Flowers and Wreath.
1649	16	.....	C. C. Pruden.....	".....	Trunks, Valises, and Satchels.
1650	10	.....	United States Watch Co.....	Athens, O.....	Crystallized Salt.
				Marion, N. J.....	Watch Movements and Dials.

1651	.....	J. W. Colton	Westfield, Mass.....	Flavoring Extracts.
1652	.....	Casper Oswald.....	Cincinnati, O.....	Geranium (Exhibition only.)
1653	.....	Mrs. McClelland.....	"	Shell Flowers.
1654	.....	John Curtis	"	Brett Carriage.
1655	.....	J. E. Jones.....	"	Combination Sofa Lounge and Table (Exhibition only).
1656	.....	Mrs. C. W. Allen.....	Newport, Ky.....	Safety Sad-Iron Stand.
1657	.....	Kalamazoo Paper Co.....	Kalamazoo, Mich....	Paper.
1658	.....	J. C. Gaston.....	Cincinnati, O.....	Patent Envelopes.
1659	.....	Blymyer, Norton & Co.....	"	Church and Farm Bells (Steel Composition).
1660	.....	E. C. L. Mustin & Co.....	"	Group of Statuary (Exhibition only).
1661	.....	J. E. Clendenen.....	Covington, Ky.....	Bituminous Rock Paving.
1662	.....	Geo. S. Blanchard & Co.....	Cincinnati, O.....	Books and Stationery (Exhibition only).
1663	.....	A. P. C. Bonte.....	"	Frames, etc.
1664	.....	J. Ellsner & Co.....	"	Flour (Exhibition only).
1665	.....	E. A. Thompson.....	Covington, Ky.....	Wines and Brandy (Exhibition only).
1666	.....	Thomas Langan.....	Cincinnati, O.....	Horseshoes.
1667	.....	F. Lunkenheimer.....	"	Globe Valves.
1668	.....	Sarah A. Tatem.....	"	Quilt.
1669	.....	J. H. Hey.....	"	Street Railroad Register (Exhibition only).
1670	.....	James W. McMakin.....	Connersville, O.....	Patent Fire-Place Heater (Exhibition only).
1671	.....	Esselborn Bros.....	Cincinnati, O.....	Millinery Goods (Exhibition only).
1672	.....	James Bradford & Co.....	"	Barrel of Flour.
1673	.....	Price, Hine & Tupper.....	New Orleans, La....	Louisiana Rock Salt (Exhibition only).
1674	.....	J. Laverne	Cincinnati, O.....	French Bread.
1675	.....	R. C. Webster.....	"	Gold Ore (Exhibition only).
1676	.....	Woodrough & McParlin.....	"	Circular Saw.
1677	.....	Ritter, Hogan & Sowden.....	"	Circular Saw.
1678	.....	L. W. Leary	Norfolk, Va.....	Champion Lantern (Exhibition only).
1679	.....	T. H. Brown.....	Cincinnati, O.....	Horseshoes (Exhibition only).
1680	.....	John Boake & Sons.....	"	Farm Wagon.
1681	.....	Kenton Furnace Co.....	Newport, Ky.....	Pig Iron (Exhibition only).
1682	.....	Miles, Morton & Co.....	Cincinnati, O.....	Boulevard Paving (Exhibition only).
1683	.....	Cyrus Wakefield.....	Boston, Mass.....	Rattan Sofa, Matting, Chairs, etc. (Exhibition only).
1684	.....	Mrs. Schultz.....	Cincinnati, O.....	Wax Work (Exhibition only).

CATALOGUE OF ARTICLES AT THE INDUSTRIAL EXPOSITION.—CONTINUED.

No.	Class.	Sec.	Name of Exhibitor.	Residence.	Articles Exhibited.
1685	20	.....	Methodist Book Concern.....	Cincinnati, O.....	Books (Exhibition only).
1686	21	.....	Miss Rebecca Bloom.....	"	Picture in Wool.
1687	13	.....	Urbana Woollen Mills.....	Urbana, O.....	Tweeds, Cassimeres, and Plaid Flannels.
1688	9	.....	R. M. Bishop & Co.....	Cincinnati, O.....	Plug Tobacco.
1689	21	.....	Miss Maggie B. Truman.....	"	Wax Flowers.
1690	13	.....	S. D. Welch & Sons.....	Philadelphia, Penn.....	Carpets.
1692	14	.....	H. M. Silverman.....	New York City	Furs.
1693	14	.....	Wm. Ewing.....	"	Hats.
1694	14	.....	E. Morris & Co.....	Philadelphia, Penn.....	Hats.
1695	14	.....	L. J. Phillips & Co.....	New York City.....	Furs.
1696	14	.....	E. Morris & Co.....	Philadelphia, Penn.....	Hats.
1697	14	.....	Wm. Ewing.....	New York City	Hats.
1698	14	.....	Pickard & Wood.....	Cincinnati, O.....	Hats.
1699	24	.....	John Winter.....	"	Model of Skating Rink (Exhibition only).
1700	5	.....	Fort & Austing.....	"	Hydrants.
1701	14	.....	John C. Buerkle.....	"	Russian Seal Cloak.
1702	21	.....	Wilcox & Gibbs Sew. Machine Co.	"	Sewing Machine Work.
1703	5	.....	Jacob Simon.	"	Water Filters.
1704	11	.....	C. H. Helmkamp.....	Reading, O.....	Patent Self-Rocker (Exhibition only).
1705	16	.....	C. F. Moll.....	"	Carbonates of Potash.
1706	16	.....	Baeder, Adamson & Co.....	Cincinnati, O.....	Glue.
1707	16	.....	Taylor, Strow & Co.....	Philadelphia, Penn..	Crucibles.
1708	16	.....	Arnold, Sturgis & Co.....	"	Teas and Coffees.
1709	13	.....	F. Vonderheide.....	Cincinnati, O.....	Twines.
1710	8	.....	F. Nichols.....	Newport, Ky.....	Patent Wheel Hub (Exhibition only).
1711	5	.....	E. Ransom.....	Flint, Mich.....	Globe Valves.
1712	13	.....	Ebenezer Ware.....	Waukegan, Mich....	Fine Wools (Exhibition only).
1713	6	.....	Lee & Stuckey.....	Cincinnati, O.....	Horseshoes (Exhibition only).
1714	13	.....	Andrew McFarland.....	New Athens, O.....	American Merino Wool (Exhibition only).

1715	24	Jas. H. Laws	Cincinnati, O.	Geological Specimens and Fertilizer (Exhibition only).
1716	19	Ferd. Meyer & Son	New York City	Lithographs.
1717	21	Jeffras, Seeley & Co.	Cincinnati, O.	Bonnets.
1718	13	Mr. Waite	Massachusetts	Horse Covers.
1719	13	Addy, Hull & Co.	Cincinnati, O.	Bale of Cotton.
1751	1	John Cooper & Co.	Mt. Vernon, O.	Cold and Hot Water Feeder.
1752	1	John Cooper & Co.	"	Portable Engine Heater.
1753	1	Champion Machine Co.	Springfield, O.	Combined Reaper and Mower.
1754	1	Fred. Miller	Cincinnati, O.	Starch Packing Machine (Exhibition only).
1755	1	Moore & Garlinghouse	Madison, Ind.	Combined Hay Rake and Loader (Exhibition only).
1756	1	Holland & Cody	New York City	Glass Oil Lubricator.
1757	1	L. B. Tupper	Louisville, Ky.	Grate Bars and Frame.
1758	1	N. Patterson & Co.	Cincinnati, O.	Oil Can with Pump.
1759	1	J. D. Osborne	Troy, O.	Two-Horse Cultivator.
1760	1	American Steam Gauge Co.	Boston, Mass.	Steam Gauges.
1761	1	American Steam Gauge Co.	"	Indicator.
1762	1	E. F. Dunaway	Cincinnati, O.	Sash, Door and Blind Clamps.
1763	1	E. F. Dunaway	"	Blind Wiring Machine.
1764	1	C. G. Forshey	Galveston, Texas.	Sound Dampener.
1765	1	George G. Graham	Springfield, O.	Stone Force Pump (Exhibition only).
1766	1	Greenwood Pipe Co.	Cincinnati, O.	Steam Gauges.
1767	1	S. W. Jones	Bluffton, Ind.	Hand Corn Cultivator.
1768	1	Josiah Kirby	Cincinnati, O.	Bung Machinery.
1769	1	Warden, McClelland & Co.	"	Water Gauges.
1770	1	Blymyer, Norton & Co.	"	Sugar Evaporators.

REPORTS OF THE JUDGES

AND THE

AWARDS

OF THE

GENERAL COMMITTEE.

REPORTS OF THE JUDGES

AWARDS

GENERAL COMMITTEE.

CLASS 1.—MACHINERY.

Sec. 1. Steam Engines and Boilers, Steam Pumps, Air Engines,
and Steam Machinery.

JUDGES:

FRANK MILLWARD.

THOS. H. RYAN.

JOS. H. NESBITT.

No.	Exhibitor.	Residence.	Articles Exhibited.
1	Samuel Van Emon.....	Cincinnati, O	Double Cylinder Reversible Steam Engine.
8	Cope & Co.....	"	Steam Pumps.
9	Cope & Co.....	"	Steam Boiler Feeder.
10	Cope & Co.....	"	Patent Combined Well Pump and Boiler Feeder.
17	Sharps, Davis & Bonsall	Salem, O.....	Printing Office Engine.
27	C. A. Conde & Co.....	Indianapolis, Ind....	Conde's American Governor.
37	Stilwell, Bierce & Co.....	Dayton, O.....	Lime Extracting Heater and Filter Combined.
45	McGowan Bros. Pump and Machine Co.....	Cincinnati, O.....	T. J. McGowan's Patent Direct Acting Crank Steam Double Acting Force & Lift Pump.
54	Long, Joseph & Carter...	Indianapolis, Ind....	Steam Governor.
57	Griffith & Wedge.....	Zanesville, O.....	Portable Engine.
66	E. H. Ashcroft.....	Boston, Mass.....	Case of Steam Gauges.
67	E. H. Ashcroft.....	"	Ashcroft's Self Testing Steam Gauge.
68	E. H. Ashcroft.....	"	Ashcroft's Nickel-Seated Safety Valve Lock-Up.
69	E. H. Ashcroft.....	"	Steam Fire Engine Nickel-Seated Safety Valve.
70	E. H. Ashcroft.....	"	Naylor's Annular Lip Safety Valve.
95	Meredith & Co	Cincinnati, O.....	American Anti-Incrustator.
107	Post & Co.....	"	Steam Gauges.
173	Post & Co.....	"	2 Locomotive Head Lights.
174	Post & Co.....	"	Lot of Steam Gauges.
131	Warden, McClelland & Co	"	Shive Steam Governor.
194	Owens, Lane, Dyer & Co	Hamilton, O.....	Portable Engine.
195	Owens, Lane, Dyer & Co	"	Stationary Engine.
226	Jeremiah Darling....	Cincinnati, O.....	Automatic Steam Boiler Feeder.
227	Jeremiah Darling.....	"	1 Precipitator.
230	Wm. Kirkup & Son.....	"	7 Steam Gauges.
239	I. & E. Greenwald.....	"	Steam Engine.
246	C. Ahrens & Co.....	"	Steam Fire Engine.

CLASS 1, MACHINERY—SECTION 1, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
250	Burley & Co....	Cincinnati, O.....	Safety Valves and Low Water Indicators.
261	H. & F. Blandy.....	Zanesville, O.....	Portable Engine.
283	Dr. Joseph G. Rogers....	Madison, Ind.....	Boiler Scale Preventive.
285	Ohio Cement Felting Co.	Cincinnati, O.....	Non-Conduct'g Cement Felting.
290	Gardner & Robertson....	Quincy, Ill.....	Steam Governor and Automatic Stop Combined.
1325	H. & F. Blandy.....	Zanesville, O.....	Farm and Plantation Steam Engine.
1327	J. L. Paige.....	Rochester, N. Y.....	Steam Boiler Arch.
1328	Connor & Wickwire.....	Cincinnati, O.....	Sabraton Boiler Covering.
1331	E. H. Ashcroft.....	Boston, Mass.....	Low Water Detector.
1333	Cordesman & Dierker....	Cincinnati, O.....	Six-Horse Power Engine.
1339	Berryman Regulator and Alarm Co.	Hartford, Conn.....	Steam Boiler Feeder.
1340	Berryman Regulator and Alarm Co.....	"	Automatic Electric Low Water Alarm.
1341	Berryman Regulator and Alarm Co.....	"	Automatic Steam Trap.
1356	H. A. Glassford & Co....	Cincinnati, O.....	Pracey Governor.
22	P. Eby.....	Buffalo, N. Y.....	Improvement in Boiler Furnaces.
1425	H. A. Glassford & Co....	Cincinnati, O.....	No. 1 Steam Pump.
1362	H. A. Glassford & Co....	"	No. 3 Special Steam Pump.
1360	H. A. Glassford & Co....	"	Slide Stop Bronze Valves.
1381	P. H. Ryan.....	"	Boiler Flue Cleaner.
1382	Wm. Perry.....	N. Bridgewater, Mas	Patent Steam Digeter.
1386	L. Steigert.....	Cincinnati, O.....	Water Regulator.
1415	Yeo & Shoemaker.....	Richmond, Ind.....	Portable Engine.
233	P. H. & F. M. Roots.....	Connersville, Ind...	Force Blast Rotary Blower.
234	P. H. & F. M. Roots.....	"	Blacksmiths' Rotary Blower.
235	P. H. & F. M. Roots.....	"	Hand Blower for Blacksmiths.
236	P. H. & F. M. Roots.....	"	Smiths' Forge.
237	P. H. & F. M. Roots.....	"	2 Portable Forges.
238	P. H. & F. M. Roots.....	"	2 Blacksmiths' Tweer Irons.
1439	Swift's Iron and Steel Works	Cincinnati, O.....	1 Boiler Head.
1449	Fewlass & Hodgson.....	"	Metallic Packing for Piston and Valve Rods.
1450	Fewlass & Hodgson.....	"	Water Gauge and Gauge Cock Combined.
1453	Lane & Bodley.....	"	2 Portable Engines.
1454	Lane & Bodley.....	"	2 Stationary Engines.
1474	Lane & Bodley.....	"	1 Portable Engine (Ex. only).
1465	Gaar, Scott & Co.....	Richmond, Ind.....	Portable Steam Engine.
1467	John Porteous.....	Cincinnati, O.....	Patent Self-Acting Cylinder Cock.
1468	G. S. Nevins.....	Bushnell, Ill.....	Speed Indicator.
1470	Berryman Regulator and Alarm Co.....	Hartford, Conn.....	Automatic Steam Boiler Feeder.

CLASS 1, MACHINERY—SECTION 1, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1365	H. A. Glassford & Co.....	Cincinnati, O.....	One 2½ Inch and Bronze Slide Stop Valve.
1475	H. A. Glassford & Co.....	"	2 Syphon Pumps.
1476	H. A. Glassford & Co.....	"	1 Brown's Valve.
1367	H. A. Glassford & Co.....	"	Winans' Patent Anti-Incrustation Powder.
1370	Vanduzen & Tift.....	"	3 Water Gauges.
1473	H. & F. Blandy	Newark, O.....	1 Stationary Engine.
1471	Samuel Boden.....	Louisville, Ky.....	2 Steam Safety Valves.
1487	Reinshagen & Wiehl.....	Cincinnati, O.....	Low Water Indicator for Steam Boilers.
1494	John Cooper & Co.....	Mt. Vernon, O.....	Portable Steam Engine (Ex. only).
1751	John Cooper & Co.....	"	Independent Cold and Hot Water Feeder.
1752	John Cooper & Co.....	"	Portable Engine Heater.
1493	W. S. Belt.....	Cincinnati, O.....	Low Water Alarm Indicator.
1757	L. B. Tupper.....	Louisville, Ky.....	Furnace Grate Bars.
1760	American Steam Gauge Co.....	Boston, Mass.....	2 Steam Gauges.
1761	American Steam Gauge Co.....	"	1 Indicator.
1766	Greenwood Pipe Co.....	Cincinnati, O	Steam Gauges.
1769	Warden, McClelland & Co.....	"	Water Gauges.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We, the Judges appointed to examine into merits of Articles exhibited in Class 1, Section 1, respectfully submit the following report:

GENERAL DISPLAY.

Nos. 1453, 1454, and 1474. Messrs. LANE & BODLEY, of Cincinnati, exhibit two portable engines for saw mill purposes, etc., one portable engine, mounted upon wheels for farm purposes, and two stationary engines.

These engines are constructed upon the most approved principles of mechanism, and embody good substantial devices, excellent workmanship, and fine finish. In view of the number and general excellence of each article, we regard the dis-

play of Lane & Bodley to be decidedly the best in our Class and Section.

STATIONARY ENGINES.

No. 17. Messrs. SHARPS, DAVIS & BONSALE exhibit a small upright engine and boiler combined, designed for printing offices and other establishments requiring a small motor.

The boiler is of the "vertical flue" form and rests upon a large circular base, which is of such a form as to collect the water emitted from the gauge-cocks and other parts of the engine. The cylinder, upper cylinder head, frame, slides, pillow block, and supporting bracket which secures the engine to the boiler head, are formed in one casting of elegant design. Upon the lower cylinder head the feed pump is cast, the plunger of which is a projecting rod from the piston of the engine. The engine is provided with a heater for the feed water close to the boiler shell, the well known "Shive governor," for regulating the speed, and other appurtenances, all admirably arranged.

As an article of intrinsic merit it is not excelled by any thing on exhibition. *First degree of merit.*

No. 239. Messrs. I. & E. GREENWALD exhibit a large stationary engine (horizontal), which has been in constant operation since the opening of the Exposition.

It is fitted with Estep's patent rotary valves for governing the steam ports, the valves being perfectly balanced and adapted to move with but little friction over the seats.

The workmanship is first-class in every particular, and the finish admirable. *First degree of merit.*

No. 1325. Messrs. H. & F. BLANDY exhibit a small horizontal stationary engine, whose distinguishing feature is a bed plate which supports both bearings of the main shaft. It is of substantial construction, good design, and well adapted for the purpose intended. *Third degree of merit.*

The above stationary engines are the only ones exhibited for competition.

No. 1454. Messrs. LANE & BODLEY exhibit two stationary engines, the largest of which is a horizontal engine of dura-

ble construction, and admirably designed for stability and proper distribution of material. The cylinder is imbedded half way in the bed plate, in order to locate the plane of motion immediately over the face of the bed. This engine has been used for driving machinery in the Exposition and is not entered for competition, except in connection with other engines of these builders for general display. The small engine entered under the same conditions, has a modern form of bed plate (half circle), which is cast in one piece with pillow block and feet, and is of good construction.

DOUBLE CYLINDER REVERSIBLE ENGINE.

No. 1. SAMUEL VAN EMON exhibits an engine of this character, which embodies several novelties of construction which eminently adapt it for hoisting machinery or for a steamboat "nigger" engine. It can be reversed almost instantly by a very meritorious device. The only objection to the engine on exhibition is the imperfect workmanship, evidently the result of hurried construction. *Third degree of merit.*

PORTABLE ENGINES.

Nos. 1453 and 1474. Messrs. LANE & BODLEY exhibit three portable engines, which are not entered for competition, except in so far as they form a part of Lane & Bodley's competitive general display.

Each engine has the following distinguishing and meritorious characteristics: The strain of the engine is not imparted to the boiler shell, but is wholly sustained by the bed plate, which, in order to provide for expansion and contraction, is secured to the boiler by a permanent connection at the fire-box end, and by a yielding connection through the smoke box at the opposite end. The cylinder is located in close proximity to the boiler in order to prevent "racking" or oscillation of the machine in motion. The boxes and seats for the main shaft are finished to standard sizes, to provide for the duplication of parts and the introduction of new boxes without the necessity of a new alignment or the employment of a skilled mechanic. The lift pump discharges the supply water through an open pipe into a water chamber, which is located higher than the

chamber of the boiler feed pump, to which it is connected, in order to indicate any cessation of the supply to the water box or feed to the boiler. The fire box of the boiler is supported upon shoes, which are so constructed that the connecting bolts through the boiler are relieved from strain.

No. 1494. JOHN COOPER & Co., of Mount Vernon, Ohio, exhibit a portable engine.

The Cooper engine we regard, after a careful examination, as one eminently adapted for durability, great development of power, and economy of fuel.

It is fitted with a very efficient water heater and lime catcher (Stilwell's patent) which delivers the feed water at two hundred and twelve degrees, and extracts the lime and other impurities from it before it is so delivered. An independent hot and cold water pump combined, of novel construction, takes the place of the customary separate lift and force pumps.

Nos. 57 and 261. Messrs. GRIFFITH & WEDGE, of Zanesville, Ohio, and Messrs. H. & F. BLANDY, of Newark and Zanesville, exhibit portable engines, which are entitled to the highest degrees of award, but owing to differences of opinion upon their respective merits and demerits, we are compelled to submit the accompanying supplemental majority and minority reports.

No. 194. Messrs. OWENS, LANE, DYER & Co., of Hamilton, Ohio, exhibit a ten-horse power mounted portable engine, designed for threshing and general farm or plantation uses, where convenient portability is desirable.

The general arrangement of parts; the close, compact, and novel manner in which the engine is secured to the boiler, whereby the boiler shell is relieved from the strain of the engine; the simple valve motion, and the substantial manner in which the machine is mounted upon the wheels, makes it well adapted for the various purposes of a portable engine, and in these respects is superior to any mounted portable engine in competition. *Third degree of merit.*

STEAM PUMPS.

Three steam pumps were entered for competition, and in order to determine their relative efficiency a test was instituted, from which one (McGowan's) was withdrawn.

The results of the test of the "Cameron pump" and that of Cope & Co.'s were so indefinite, owing to accidental defects of the "Cameron," and the extreme length of steam pipe submitted to condensation under differing temperatures, that our decisions have been based only upon the relative merits of construction.

No. 8. Messrs. COPE & Co., of Cincinnati, exhibit several steam pumps, steam boiler feeders, and a combined well pump and boiler feeder, which, for extreme simplicity, absence of outside rods, tappets or tappet arms—admirable smoothness of motion without percussion at any point—great efficiency at high speeds—capacity for maintaining a very low speed when necessary, and the faculty of starting from any point at which they may have been stopped, by simply turning on steam, they are unequaled by any within our knowledge. *First degree of merit.*

No. 1425. Messrs. H. A. GLASSFORD & Co., exhibit two "Cameron" steam pumps, which are of the "direct action" type, and of great simplicity of construction, having no exterior rods or other moving devices. The operation of these pumps during the Exposition has proved their great efficiency for the purpose designed. *Second degree of merit.*

No. 45. T. J. MCGOWAN exhibits a steam pump of the "direct-acting Scotch yoke" style, with crank and fly wheel. It has been in constant operation during the Exposition, with very good results. It is specially adapted for use where durability and non-liability of derangement are considered the most essential features, and it is also adapted for raising water through a great vertical height of "suction." *Third degree of merit.*

STEAM FIRE ENGINE.

No. 246. C. AHRENS & Co., of Cincinnati, exhibit a steam fire engine, which we consider superior to any ever constructed, and we are familiar with the productions of every manufacturer since their first introduction.

This engine embodies a Latta boiler, and a direct-acting "Scotch yoke" steam pump. The coils of the boiler are arranged in a round fire box and jacket, which is surmounted by an elaborately-ornamented top and smoke flue. The engine is beautifully finished, weighs six thousand, two hundred pounds, and, upon recent test, raised steam from cold water sufficient to force water through one hundred feet of hose in three minutes and five seconds. In twelve minutes it reached its maximum power, and threw an one and a quarter stream two hundred and seventy-three feet, and, afterward, two seven-eighth streams two hundred and twelve feet. This performance has never been equaled by any engine of its weight. *First degree of merit.*

STEAM GAUGES.

In order to test the merits of the four varieties of steam gauges in competition, it was deemed most expedient, and certainly unobjectionable in any sense, to test springs alone, inasmuch as the spring, whether diaphragm or tube, is *the* gauge. The diameter and thickness of metal being equal in all cases, it was deemed perfectly correct to assume that the spring which exhibited the greatest range of elasticity would be entitled to rank as the best spring. The testing of the tubular form—the well-known "Bourdon" spring—can not be regarded as being made under equal conditions, although the result clearly proved that it had much less range of elasticity beyond its calculated working range than any of the diaphragm springs in competition, and therefore not so well calculated for durability and safety from permanent deflection in use. The test of the diaphragms was made by submitting them to hydraulic pressure, and indicating the permanent deflection or "set," if any, by a lever, the short end of which

rested upon the diaphragm, and the opposite end pointed to a graduated scale. The test of the Bourdon spring was made by forcing the spring beyond its dial range without removing it from its case.

No. 66. E. H. ASHCROFT exhibits a case of steam gauges, embodying the "Bourdon" curved tube springs, which were submitted to the following tests:

First test resulted in permanently deflecting or "setting" the spring to a great extent, and bursting it at a hydraulic pressure of two hundred and eighty pounds, the dial of the gauge being graduated to one hundred and eighty pounds.

Second test, on a gauge graduated to one hundred and eighty pounds, resulted in the "setting" of the spring at two hundred and sixty pounds.

Third test, on a gauge of the same kind, resulted in the "setting" of the spring at two hundred pounds, which was but twenty pounds above the range of the dial.

In view of the results of the diaphragm spring tests, hereinafter specified, we accord the Ashcroft gauge the *third degree of merit* only.

No. 174. Messrs. Post & Co. exhibit steam gauges fitted with the "Blake" patent spring, which is a corrugated diaphragm, the corrugation being of spiral form, designed not only to permit lateral and vertical vibration, but also circular vibration. The tests resulted as follows:

First. A spring of large area (three inches in diameter), 19 wire gauge, was submitted to four hundred pounds pressure without any permanent deflection. Further pressure was prevented by the diaphragm impinging against the case.

Second. A spring of three inches in diameter, 23 wire gauge, was submitted to a pressure of three hundred and twenty-five pounds without setting, but subsequently "set" at a pressure of five hundred pounds.

This spring is used on gauges having a dial graduated to sixty pounds, and it is proper to say that no other thin spring of so large an area was tested.

Third. A spring of two and one-quarter inches in diame-

ter, 21 wire gauge, was submitted to a pressure of five hundred pounds without "set."

In comparing these tests with those upon the Greenwood gauges, fitted with the "Wilson" diaphragm spring, we are unable to accord to either superior merit over the other, and have decided that they both have the very *first degree of merit*.

No. 1764. GREENWOOD PIPE Co. exhibit steam gauges fitted with Wilson's patent diaphragm springs, which consist of steel plates corrugated both concentrically and radially, to permit of a natural freedom of vibration, which a spring which is simply provided with concentric corrugations can not possess. The result of these tests is as follows:

First. A spring of two and five-eighth inches in diameter, was submitted to a pressure of five hundred pounds, which caused a very slight permanent deflection. This spring was 23 wire gauge, and calculated to be used on gauges of from sixty to two hundred and forty pounds.

Second. A spring of two and one-quarter inches in diameter, and 23 gauge, was submitted to a pressure of five hundred pounds, and fully maintained its elasticity. Not the slightest "set" was observable after the pressure was relieved. As before stated, we decide these gauges to have the first degree of merit.

No. 230. WILLIAM KIRKUP & SON exhibit steam gauges of elegant design and finish, which are fitted with the "Schaffer" spring, a concentrically corrugated diaphragm. Upon a test of these springs, we found them but very slightly less elastic than those before mentioned.

Three springs were submitted to a pressure of five hundred pounds, and one suffered no "set" under this extreme pressure. They were all two and one-quarter inches in diameter and 23 gauge, and calculated to be used upon dials graduated to one hundred and eighty pounds. *Second degree of merit.*

STEAM GOVERNORS.

No. 131. WARDEN, McCLELLAND & Co. exhibit a "Shive" governor, which is very meritorious, and fully recognized by

all intelligent mechanics as an important improvement over the customary radial arm governors, and we accord it the *first degree of merit*.

No. 27. C. A. CONDE & Co. exhibit "Conde's American governor," whose distinguishing features are a graduated movement between the arms and valve, and a double-acting balance valve. *Second degree of merit.*

No. 54. LONG, JOSEPH & CARTER exhibit a "Bellis" governor, which, in addition to being a good device for regulating the engine, has a provision for stopping the engine when the belt accidentally flies off or breaks. *Third degree of merit.*

SAFETY VALVES.

No. 1471. SAMUEL BODEN, of Louisville, Kentucky, exhibits a very novel and efficient construction of valve, having a double seat, by which a double opening is provided for the escape of steam, and but little weight and length of lever is necessary to balance the pressure. It is also provided with a valve, opening inward when the pressure has been reduced by the stoppage of the water supply, which is designed to give vent to steam generated by the flow of water upon heated plates, after the water has been so reduced as to expose the plates to the fire. *First degree of merit.*

No. 250. BURLEY & Co. exhibit a combined safety valve and low water indicator, with late improvements, which is adapted to act as an ordinary safety valve to regulate the pressure, and as an alarm when the water is low. It is a very simple and reliable device, and not likely to get out of order. *First degree of merit.*

No. 68. E. H. ASHCROFT exhibits a nickle-seated lock-up safety valve, which is of excellent construction, and specially designed to prevent the possibility of "sticking" in use. *Second degree of merit.*

LOW WATER INDICATORS.

No. 1487. P. W. REINSHAGEN exhibits a low water alarm which, for simplicity, perfect reliability, and cheapness, can not be excelled by any within our knowledge. *First degree of merit.*

No. 1493. W. S. BELT exhibits a low water alarm of the expansion tube description, with recent improvements of the exhibitor. It differs from other expansion tube indicators in this, that it always emits dry steam from the whistle, a very important improvement over the old style. *Second degree of merit.*

No. 1340. R. BERRYMAN exhibits an automatic electric low water alarm, which is specially adapted to convey the alarm to any part of an establishment desired. It is a gravitating device of simple and efficient construction. *Second degree of merit.*

We regard all three indicators herein specified as equally efficient, and the degree of merit awarded in the first instance is for simplicity and cheapness.

AUTOMATIC BOILER FEEDERS.

No. 1470. The most ingenious, complete, and reliable device of this character is exhibited by R. BERRYMAN, of Hartford, Connecticut. The operating device is a metal globe, connected to the boiler by long flexible iron pipes, which rises and falls in unison with the rise and fall of water in the boiler, the motion serving to operate the valve which regulates the speed of the steam supply pump, *First degree of merit.*

No. 1386. L. STEIGERT exhibits a feed water regulator, which combines in one apparatus a finger and dial to indicate the height of water, an alarm whistle to indicate danger, and an automatic regulator for the feed water supply. It is a simple and very efficient device. *Second degree of merit.*

No. 226. JEREMIAH DARLING exhibits an automatic feed water apparatus, which dispenses with the necessity of the

customary force pump. It has a rotary valve operated by the engine, which is arranged to exchange a pocketful of water for a pocketful of steam, the water falling by gravity into the boiler at each turn of the valve. Its operation is also such as to prevent the water rising too high in the boiler or falling too low. *Third degree of merit.*

WATER GAUGES.

No. 1370. VANDUZEN & TIFT exhibit dial water gauges of good construction, which, upon test, proved to be reliable in operation. *First degree of merit.*

No. 1449. FEWLASS & HODGSON exhibit a glass water gauge with gauge cocks combined; a very compact instrument embodying good workmanship. *Second degree of merit.*

ROTARY BLOWERS.

Nos. 233, 234, 235, 236, 237, 238. Messrs. P. H. & F. M. Roots, of Connersville, Indiana, exhibit a large power blower for foundry blast, etc.; a power blower for a series of blacksmiths' fires; a power blower and forge combined; a portable blower forge for steamboat use; a portable forge for plumbers, gas fitters, etc.; a small portable forge for boiler yards, and an independent blower for a blacksmith's fire. These machines have already established a national reputation as superior to any blast producers in use. They give a *positive* powerful blast at a very low velocity, and at a much less expense of power than a centrifugal fan blower. The rotary pistons barely touch the case, or each other, and there is consequently but little friction in their operation. The old-fashioned blowing cylinder is unfitted to give an uniform blast, or the fan a positive one, but the Root blower accomplishes both in an admirably simple way. *First degree of merit.*

HEATERS FOR STEAM BOILERS.

No. 37. STILWELL, BIERCE & Co., of Dayton, Ohio, exhibit a Stilwell lime extracting heater and filter combined. It is designed to supply *hot pure water* to steam boilers, the value

of which over the supply of *cold or slightly heated impure water* can not be overestimated. In view of the frequent boiler explosions in consequence of lime deposits and mud having caused the overheating of the sheets exposed to the fire, these purifying heaters should be deemed a positive necessity. The "Stilwell" heater is so constructed that the water can not pass through without being thoroughly heated, and also thoroughly robbed of mud, sand, and all soluble salts that will crystalize; the mud and other matters held in mechanical solution being extracted by the filtering device, and the lime, etc., being deposited upon shelves over which the water passes in thin sheets, exposed to the action of the steam. *First degree of merit.*

No. 1752. JOHN COOPER & Co, of Mt. Vernon, Ohio, exhibit a Stilwell heater, not entered for competition, which is constructed with special reference to its adaptation for portable engines. It is a very meritorious adaptation, and of great value in connection with the class of engine for which it is designed.

MISCELLANEOUS.

No. 1439. SWIFT'S IRON AND STEEL WORKS exhibit a *five-flue boiler head*, splendidly flanged, and of excellent quality of iron. *First degree of merit.*

No. 1449. FEWLASS & HODGSON exhibit a new metallic packing for piston rods, valve rods, etc. (Eckford's patent), which has been used in the cylinder stuffing box in the Greenwald engine during the Exposition. It is a very meritorious device, and supplies what has long been required as a needed improvement. *First degree of merit.*

No. 1468. G. S. NEVINS exhibits a speed counter which, although not calculated for indicating the exact speed of a revolving body, is a very simple and cheap instrument. *Second degree of merit.*

No. 283. DR. JOS. G. ROGERS exhibits a package of "Rogers'" boiler scale preventative, which has been found to be of con-

siderable service in preventing incrustation. *Second degree of merit.*

No. 95. MEREDITH & Co., of Cincinnati, exhibit the "improved American anti-incrustator" for steam boilers, which acts to prevent by galvanic action the adhesion of deposits to the sheets of the boiler. *First degree of merit.*

No. 1381. P. H. RYAN exhibits a large "boiler flue cleaner," which is so constructed that it can be pushed beyond the flues without danger of becoming caught on the return. *First degree of merit.*

FRANK MILLWARD,	} Committee	
THOS. H. RYAN,		of
JOS. W. NESBITT,		Judges.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—In my judgment H. & F. Blandy is entitled to the first premium on portable steam engines, for the following reasons: It is thoroughly portable, simple, and perfect in its mechanical combination. The workmanship is very good. The great point in this machine is the bed plate, on which the engine is built. This bed plate is used as a heater, and, I think, an extra good one. All the parts of this machine are easy to get at; the weight of engine is equally distributed on the boiler and works with great power. The steaming capacity of the boiler is No. 1. As the Chairman of our Committee has made a minority report in favor of Griffith & Wedge, I will here state my objections to their engine: First. The whole weight of the engine is on one end of the boiler, which makes it bad to load and haul on wagons. The construction of the engine is bad, the piston can not be got at without taking off the guides, yoke, and cross-head, and connecting rod. Then I object to the short connecting rod, also to the way the pumps are run, one with an eccentric and the other with a belt so close to a hot boiler. I also object to the location of one of them, immediately under the band wheel, down in the mud. I object further to the throttle-valve being all inside the dome, which is very hard.

to get at. I object to the manner in which the steam pipe is attached to the steam chest, by a ball and socket joint, which has been done away with by practical builders years ago. There is no way to replace it with either copper or iron pipe, should it break, as there is no flange on either end.

Respectfully,

THOMAS H. RYAN,

Judge of Class 1, Section 1.

NOTE.—The Publishing Committee find a report from each of the judges in this department or class upon the H. & F. Blandy and Griffith & Wedge portable engines, one called the minority and the other two the majority report. As the two latter are about the same in purport, the Committee have made an effort to get them to agree on one, but without success. We therefore decide to embody but one of them in this General Report, "this explanatory note taking the place of the other."

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—I respectfully submit the following minority report upon articles 57 and 261, Class 1, Section 1:

No. 57. Messrs. GRIFFITH & WEDGE, of Zanesville, Ohio, exhibit a portable engine for saw mill and other purposes, which is an entirely new departure from the customary construction of portable engines, and embodies many very important improvements. It has always been customary among other builders to mount a *horizontal* engine upon the boiler. Griffith & Wedge have adopted a vertical engine to this use.

It is unnecessary to discuss the advantages a vertical engine possesses over a horizontal engine, in the friction and wear of the cylinder, piston, stuffing boxes, slides, etc.; for it is a well-established fact, not disputed by the best mechanics (see any published authorities on the steam engine) that the working parts of a vertical engine will last twice as long a time as those of a horizontal one. A vertical engine, however, can only be used where it is convenient to locate the driving shaft at a considerable vertical distance from the foundation or base, and this accounts for its being little used, except in the largest

class of engines, where its superiority over the horizontal style has been rendered so apparent *that no horizontal engine of large size exists*. Messrs. Griffith & Wedge appear to be the *first to discover that a vertical engine could be successfully applied to a portable engine*. The advantage of a vertical engine for a portable is not only on account of diminished wear, as in other cases, but for the convenience it gives for balancing the working parts and *preventing the violent oscillation or "racking" movement* incident to ordinary portable engines at high speed, which movement is not only detrimental on account of the lateral wear upon the engine, but for the reason that it *robs the engine of its power* in sustaining the shaking or "racking." This violent oscillation of a heavy body can not be produced except at the expense of power. The forward or chimney-end of the Griffith & Wedge engine rests upon a support which serves as a heater for the feed water. The cylinder—ten inches diameter fourteen inch stroke—is bolted to this support at the lower end and connected at the upper end to the boiler shell, through the medium of a short light plate; the customary heavy bed plate is therefore entirely dispensed with. The piston and cross head are of cast-steel, and what little weight they have is counterbalanced by a counter weight on the crank plate, which also balances the pitman and piston rod. It will be observed that the momentum of the moving parts is in one direction spent upon the ground, even if it were not counterbalanced on the crank plate. The plane of motion of the working parts moreover is very close to the boiler shell, being distant but seven and seven-eighth inches; the engine is therefore well calculated to maintain a high rate of speed, with but little "racking" movement.

"The only engine upon exhibition which approaches the "Griffith & Wedge" in close proximity of the boiler shell is the "Lane & Bodley" engine, and for the same reason. Upon a test, in presence of all the judges, as to vibration relatively between the "Griffith & Wedge" engine and the "Blandy" engine, the former maintained a speed of four hundred and twenty-four revolutions per minute, with an open throttle, under twenty-five pounds of steam, and the very little rack-

ing motion perceptible was occasioned by the fly-wheel, which was not perfectly balanced, whereas the "Blandy" engine, under the same conditions, attained a speed only of three hundred revolutions per minute, attended with so violent a vibration that it broke loose from its foundation and steam connections. The valve motion of the engine "Griffith & Wedge" is the only direct and perfect one on exhibition, and it is admirably arranged. The workmanship on the engine is first-class in every respect; all the connections are made by new and very simple devices, and the entire machine so admirably designed and executed, that one opinion only has been expressed by the many experts who have examined it, viz.: that it is decidedly the best portable engine in competition. To the statements made by some mechanics that the connecting rod or pitman is too short in proportion to the stroke, and that using a belt to drive the lift pump is objectionable, it may be well to state that the rod is two and a half to one, *the generally recognized standard proportion for fast speed engines*, and that the best builders use the belt connection for the pump, and do so because it is *noiseless*, and has been found *reliable in all cases*. To the statement that it is inconvenient to get at the piston for repairs, it is only necessary to say that the slides are so simply connected that the piston can be entirely removed from the cylinder in about the time usually occupied in removing the back cylinder head and piston follower of a horizontal engine, and that such repairs are needed but *few times in the life of the engine*. The superior merits of this engine over all others in competition fairly entitle it to the *first degree of award*.

No. 261. Messrs. H. & F. BLANDY, of Zanesville and Newark, O., exhibit a portable steam engine for saw mill purposes, which, in every respect, embodies good workmanship, but it has *no peculiar characteristics, compared with any ordinary horizontal portable engine, except a hollow bed plate upon which the engine is secured*. This is a feature peculiar to the "Blandy" build, and instead of being an improvement upon other horizontal portables, such as the "Lane & Bodley" for example, it is a positive step backward, inasmuch as it necessitates the location

of the plane of motion of the working parts of the engine *too far away from the boiler shell* (twelve and one-half inches in this instance), and causes, necessarily, more vibration in motion than when close to the shell. Moreover, a half-circle bed plate, such as the "Corliss" or "Cooper," of half the weight of the "Blandy," would possess the same strength if the cylinder were placed in a line with the bed plate. The bed plate of the "Blandy" engine being a continuous tube, is adapted for a heater, and is so used; but this double use is no improvement over the separate bed plate and heater, and is objected to by many builders as being liable to freeze up and destroy one of the most costly parts of the engine. There has been no attempt made in the construction of the "Blandy" engine to balance the working parts, and the crank (an unbalanced one) is cast in one piece with the eccentric ring, thereby rendering it impossible to change the "lead" of the valve for different speeds or to reverse the engine when such may be necessary. The valve motion is very far inferior to any device for the purpose on exhibition, the line of motion being at a very great angle from the average line of motion of the eccentric rod, and in order to cover up this palpable defect, a complicated connection from the eccentric rod to the valve rod is used, which is unnecessarily costly and has no apparent purpose except to create an impression that it is a direct valve motion. This engine is provided with an excellent boiler and is well fitted and finished. *Second degree of merit.*

FRANK MILLWARD.

Chairman of Judges, Class 1, Section 1.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—I beg to submit the following minority report upon "Water Valves," of Class 1, Section 1:

No. 1476. Messrs. H. A. GLASSFORD & Co. exhibit several sizes of Brown's patent water valves, from one-half inch to two inches and four inches to twelve inches, with both single and double discs. These valves are constructed to give a full size and unobstructed water passage when open, and to make perfect joints when closed by means of easily operated toggle

joints. I am familiar with the construction of all the water valves in public use, and regard the "Brown valves" as superior to any in use. *First degree of merit.*

Respectfully submitted,

F. MILLWARD,

Chairman of Judges, Class 1, Section 1.

AWARDS.

Samuel Van Emon, Double Cylinder Reversible Steam Engine.....	<i>Small Silver Medal.</i>
Cope & Co., Steam Pumps and Boiler Feeder.....	<i>Large Silver Medal.</i>
Sharps, Davis & Bonsall, Printing Office Engine.....	<i>Large Silver Medal.</i>
C. A. Conde & Co., Conde's American Governor.....	<i>Diploma.</i>
Stilwell Bierce & Co., Lime Extracting Heater and Filter Combined.....	<i>Small Silver Medal.</i>
McGowan Bros. Pump and Machine Co., Steam Pump.....	<i>Diploma.</i>
Griffith & Wedge, Novelty and Meritorious Construction in Portable Engines.....	<i>Large Silver Medal.</i>
E. H. Ashcroft, Nickel-Seated Safety Valve Lock-up.....	<i>Diploma.</i>
Meredith & Co., American Anti-Incrustator.....	<i>Diploma.</i>
Warden, McClelland & Co., Shive Steam Governor.....	<i>Small Silver Medal.</i>
Post & Co., Steam Gauges.....	<i>Large Silver Medal.</i>
Wm. Kirkup & Son, Steam Gauges.....	<i>Small Silver Medal.</i>
I. & E. Greenwald, Steam Engine.....	<i>Gold Medal.</i>
C. Ahrens & Co., Steam Fire Engine.....	<i>Gold Medal.</i>
Burley & Co., Safety Valves and Low Water Indicators Combined.....	<i>Diploma.</i>
H. & F. Blandy, Best Portable Engine.....	<i>Large Silver Medal.</i>
Dr. Joseph G. Rogers, Boiler Scale Preventive.....	<i>Diploma.</i>
P. H. Ryan, Boiler Flue Cleaner.....	<i>Diploma.</i>
P. H. & F. M. Roots, Rotary Blowers.....	<i>Large Silver Medal.</i>
Swift's Iron and Steel Works, Boiler Head.....	<i>Large Silver Medal.</i>
Fewlass & Hodgson, Metallic Packing for Piston and Valve Rods.....	<i>Diploma.</i>
Lane & Bodley, Display of Machinery, etc.....	<i>Gold Medal.</i>
Berryman Regulator and Alarm Co., Automatic Steam Boiler Feeder.....	<i>Diploma.</i>
Vanduzen & Tift, Water Gauges.....	<i>Diploma.</i>
Samuel Boden, Steam Safety Valve.....	<i>Diploma.</i>
Reinshagen & Wiehl, Low Water Indicator for Steam Boilers.....	<i>Diploma.</i>
L. B. Tupper, Furnace Grate Bars.....	<i>Small Silver Medal.</i>
Greenwood Pipe Co., Steam Gauges.....	<i>Large Silver Medal.</i>
Warden, McClelland & Co., Water Gauges.....	<i>Diploma.</i>
Owens, Lane, Dyer & Co., Mounted Portable Engine.....	<i>Diploma.</i>

CLASS 1.—MACHINERY.

Sec. 2. Water Wheels, Pumps, Water Meters, and Hydraulic Machinery.

JUDGES:

J. S. WHETSTONE.

I. GREENWALD.

No.	Exhibitor.	Residence.	Articles Exhibited.
29	Barnett, Herrman & Co..	Springfield, O	Thos. Leffel's Improved Turbine Water Wheel.
36	Stilwell, Bierce & Co.....	Dayton, O.....	Eclipse Double Turbine Water Wheel.
42	McGowan Bros. Pump and Machine Co.....	Cincinnati, O.....	T. J. McGowan's Pat. Buckeye Double Acting Lift and Force Pump.
43	McGowan Bros. Pump and Machine Co.....	"	T. J. McGowan's Pat. McGowan Double Acting Lift and Force Pump.
44	McGowan Bros. Pump and Machine Co.....	"	T. J. McGowan's Pat. Vacuum and Pressure Air Pump.
278	McGowan Bros. Pump and Machine Co.....	"	Self-Priming Dry Wheel Pump.
49	Zerbe, Perine & Co.....	"	Water Wheel.
62	Miles Greenwood.....	"	Leffel's Double Turbine Water Wheel.
63	Miles Greenwood.....	"	Bryson's Turret Case Turbine Water Wheel.
71	J. W. Harrington	"	Gen'l Assortment of Pumps.
96	S. Van Emon	"	One Cistern Pump.
220	J. Wilder & Co.....	"	6 Wood Pumps.
228	Jeremiah Darling.....	"	1 Pump.
266	A. Leuchtweiss.....	"	Propeller Pump.
267	A. Leuchtweiss.....	"	Rotary Pump.
269	Gibson & Ogden.....	"	3 Engines, Well Pumps, and Hose Pipe.
270	Gibson & Ogden.....	"	3 Set Length Well Pumps.
271	Gibson & Ogden.....	"	3 Pitcher Spout Cistern Pumps.
272	Gibson & Ogden.....	"	Close Top Cistern Pumps.
287	Miami Machine Works...	"	Water Wheel.
1343	J. H. McGowan & Co.....	"	2 McGowan Pumps.
1380	Samuel Cummings & Son.	"	3 Fire Plugs.
1421	Geo. D. Winchell, Upson & Co.....	"	Oil Can with Pump Attach.
1446	Stout, Mills & Temple...	Dayton, O.	Amer. Turbine Water Wheel.
1758	N. Patterson & Co.....	Cincinnati, O.....	Oil Can with Pump Attach.
1763	Geo. G. Graham.....	"	Stone Force Pump.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition :

GENTLEMEN :—The undersigned Judges on Class 1, Section 2, comprising Water Wheels, Pumps, etc., would respectfully report:

That they have found a large and interesting display of machinery in their department, combining adaptability to the purposes for which they are made with a high order of workmanship.

WATER WHEELS.

The water wheels exhibited are all turbine wheels, which, within a comparatively few years, have superseded nearly all other kinds of water wheels, and must eventually entirely do so, unless perchance some new application may hereafter supersede them. We find seven exhibitors of water wheels, all differing somewhat in design, each possessing peculiarities entitling them to favorable consideration, and several having points of excellence over others, and no one combining fully all the advantages of all the others.

As to the efficiency of the wheels, nothing short of an actual test of their performance would enable us to determine their respective merits. Such a test is impracticable in the Exposition building, nor would there be time to make it, requiring, as it necessarily would, several weeks' time, besides expensive appliances for the purpose.

Most of the wheels have been in practical use long enough to establish their reputation for efficiency, and we do not find in the newer candidates for patronage any points which, in our opinion, would damage their prospects for successful competition.

MILES GREENWOOD exhibits Leffel's double turbine water wheel, also Bryson's turret case turbine water wheel, both well constructed, and both in successful operation for some

considerable length of time. The principal difference between them consists in the manner of conducting the water to the wheel. In the Leffel wheel the chutes which deliver the water to the wheel are formed by the several adjacent gates, which mould the water into separate streams until it is ready to impinge upon the wheel. By the peculiar manner in which these gates are operated, the direction in which the streams of water impinge upon the wheel buckets differs as the gates are more or less open, being more directly impinged upon the buckets when the gates are fully open. This feature is thought by some to impair its efficiency when using a partial gate.

In the Bryson wheel the chutes for directing the water upon the wheel consist of stationary guides, the quantity of supply being regulated by a cylindric register frame arranged on the outside of the wheel case, closing or opening the waterways to the wheel. The point and direction of delivery of the streams to the wheel is always the same, and it is presumed that the impact of the water is the same, whether the gate be fully or partially opened.

The Leffel wheel has been in extended use for several years, and has a well-established reputation. We also have favorable accounts of the performance of the Bryson wheels.

Messrs. STOUT, MILLS & TEMPLE, of Dayton, Ohio, exhibit the "American turbine wheel." These wheels are substantially built, and have been in practical use for several years in different parts of the country, and we hear them well spoken of for efficiency.

ZERBE, PERINE & Co. exhibit a small water wheel, which is very compact and simple in its construction, and well made, though the delivery of the water through the top of the wheel would, in our opinion, cause wear upon the wheel step, which would be objectionable in large wheels, or under high heads of water.

BARNETT, HERRMAN & Co., of Springfield, Ohio, exhibit "Thos. Leffel's improved turbine wheel." The one on exhibi-

tion we suppose to be a working model, as it is very highly finished, all of brass. The principal novel features of this wheel consist of a somewhat peculiar form of buckets on the wheel, and a combination of stationary and swiveled chutes for delivering the water to the wheel. Of the efficiency of this wheel we can not well judge in the absence of practical tests by ourselves, or by others who have used them in practical operation.

Messrs. STILWELL, BIERCE & Co., of Dayton, Ohio, exhibit the "eclipse double turbine wheel." This wheel is very compact and well made. The chutes for the delivery of the water upon the wheel are formed in the case surrounding the wheel, and are always the same, in which respect it resembles the Bryson wheel, with this difference, however, that in the Bryson wheel the chutes or guides continue further out, and make a longer guide for the water. The general construction of the "eclipse wheel" is less complicated than any of the others on exhibition.

The "MIAMI MACHINE WORKS," of Cincinnati, Ohio, exhibit Ludlow's adjustable turbine wheel. This wheel differs essentially from all the others exhibited, in having the buckets of the wheel adjustable, so as to regulate the quantity used, at pleasure, by varying the size of the openings for the discharge of the water. The water is delivered to the wheel by means of stationary guides or chutes, somewhat similar to the Bryson and eclipse wheels. The combination of sleeves, rods, and levers for operating the wheel buckets may be considered somewhat complicated, but we are informed that the wheels have been in use for some time, and giving satisfactory results. It is claimed for this wheel that the regulation of the discharge of the water at the buckets, keeping it all the time confined to well-formed chutes in the wheel, enables the wheel to develop a larger percentage of power on partial supplies of water, and the statements of disinterested persons using them corroborate this claim. Not having any experience on this point from practical tests, we are not fully prepared to pronounce upon it.

It is extremely difficult for us to classify the water wheels exhibited, as to their respective order of merit in our judgment, more especially since a thorough practical test is out of the question. We feel well satisfied that as to efficiency, under equally favorable circumstances, there is not much difference between them, as they all involve the same general principles of operation. Nor is there any very marked difference in price to the purchaser.

For compactness and simplicity of construction the eclipse water wheel, by Stilwell, Bierce & Co., has the advantage over all the others, while the Ludlow wheel, by the Miami Machine Works, appears from its construction and from reliable accounts of its performance to have an advantage in the use of limited supplies of water, although apparently somewhat complicated in its structure. The Bryson wheel and Ludlow wheel possess the most complete stationary chutes or guides for the water to the wheel. The principal feature of novelty in the water wheel exhibited by Barnett, Herrman & Co. is the form and construction of the wheel buckets, of the merits of which we can not determine in the absence of a practical test. The workmanship on the one exhibited is very excellent.

The Leffel wheel by Miles Greenwood, and the American Turbine wheel by Stout, Mills & Temple, have been so long before the public, and in constant use in all parts of the country, that their merits have become well established.

PUMPS.

In the article of pumps we find two general displays, one by the McGowan Bros. Pump Machine Co., the other by J. W. Harrington, also various pumps by other exhibitors.

The pumps exhibited by the McGowan Bros. Pump Machine Co. are all manufactured by them, and consist of the various forms of the McGowan patent pump for hand and power purposes. They exhibit a small working model, and a large specimen of T. J. McGowan's patent Buckeye double action lift and force pump, which perform with great precision and efficiency. The large "Buckeye" pump is used to supply the water for the fountains and cascades in the main

hall of the Exposition, and has been in constant operation since the opening day.

They also exhibit T. J. McGowan's double action force and lift pump, being an important improvement on the well-known McGowan pump, consisting of an improved arrangement of the valves and air chamber, rendering them more accessible for repairs.

The McGowan patent vacuum and pressure air pump is of very neat design and efficient in its operations.

The self-priming drive well pump, by the same exhibitors, contains a very ingenious and simple device for keeping the pump always charged with water, thus obviating the difficulties resulting from leaky pipes in drive well pumps, and rendering the operation more certain without the necessity of priming the pump after once being put in operation.

Their general display of pumps and the supply of the cascades by one of their large pumps, constitute an interesting feature of the Exposition.

Mr. J. W. HARRINGTON exhibits a general assortment of pumps, principally for wells and cisterns, consisting largely of pumps made by Ramsey & Co., of Seneca Falls, New York. They are of various sizes and designs, and are well made and well adapted to the purposes for which they are designed.

Messrs. GIBSON & OGDEN also exhibit cistern, well, and engine pumps from the same manufacturers, which are very neat in finish and design.

Messrs. J. H. McGOWAN & Co. exhibit two McGowan pumps of similar design with those exhibited by the McGowan Pump Machine Co., of good workmanship and well finished.

Messrs. GEORGE D. WINCHELL, UPSON & Co., and N. PATTERSON & Co., each exhibit coal oil cans with pump attachments, intended for the purpose of avoiding the nuisance of drawing oil from barrels in small quantities. These have come into very general use. The one exhibited by N. Patterson & Co. has a device attached to the pump for measuring the oil by means of a float and graduated scale, which is sufficiently

accurate for practical purposes and avoids wastage, and we are informed gives general satisfaction.

Mr. S. VAN EMON exhibits a submerged cistern pump, which is cheap and works well, and applicable to many situations.

Mr. J. DARLING exhibits a double cistern pump submerged, but the Committee are not aware of any special novel features about it.

Mr. A. LEUCHTWEISS exhibits a propeller pump for drainage purposes; also a rotary pump—both of them in operation. The judges were unable to obtain any definite information as to the details of their construction while making their examinations. They both appeared to operate very efficiently.

Messrs. J. WILDER & Co. exhibit an assortment of wooden pumps which are well made, and are very desirable for farm purposes on account of their cheapness and efficiency.

Messrs. SAMUEL CUMMINGS & SON exhibit three fire plugs, of neat design and good workmanship, and well contrived for the purposes intended, and obviating the objections and difficulties existing in many heretofore in use, being made strong and provided with devices to avoid strain on the main pipes in closing the valves, with simple device to avoid freezing in winter.

JOHN L. WHETSTONE,
ISAAC GREENWALD.

SUPPLEMENTARY REPORT.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The undersigned Judges in Class 1, Section 2, beg leave to submit the following as supplementary to their former report:

As stated in our former report, we had not an opportunity of examining fully the propeller pump and rotary pump, exhibited by Mr. A. Leuchtweiss, as we could not find any one present to explain them fully, and a mere inspection was not sufficient as the rotary pump could not be opened by us, and

the propeller pump was entirely submerged. We have had an opportunity of examining them since the close of the Exposition, and would report:

That the propeller pump consists of wings of a spiral form similar to the arms of a propeller, which revolve within a cylindric cast provided with an opening at the center of the bottom end for the inlet of the water, while the top cover is shaped in such manner as to allow the free flow of water from the propeller arms upwards to the outlet pipe upon the outer circumference of the cover, acting partly upon the principle of a centrifugal pump, and partly as a propeller. The design is very simple and its operation is very effective, and we learn from those who have used them, that they are superior to any they have ever before used. It is admirably adapted in cases where it is desirable to move large quantities to limited heights in a short time, or for pumping fluids which are mixed with solids, such as contents of tanners' vats, paper stock, or for wrecking purposes, and we therefore recommend it to favorable notice at your hands.

The rotary pump, exhibited by the same manufacturer, consists of two wheels revolving in a case, being geared together by means of gearing outside the larger wheel, consisting of a disc with four rectangular projections from its face, which fit accurately in an annular chamber in which they revolve, acting as pistons; this annular chamber not being a complete circle but intersecting with a cylindric chamber in which a smaller wheel revolves; this smaller wheel being constructed with four wings, the spaces between which receive the rectangular pistons as they leave the annular chamber while the wings serve to close over the annular chambers where it intersects the cylindric chamber, thus allowing the pistons to enter and leave the annular chamber, but preventing the passage of the water. The inlet and outlet passages communicate only with the annular chamber. It is almost impossible, however, to convey a correct idea of the device without the aid of drawings. This design for a rotary pump we believe will be as serviceable as any rotary pump with which we are acquainted, and applicable to all purposes for which rotary pumps are especially applicable, though without

very material improvements we do not imagine they can entirely supersede the well-known piston pumps in general use.

Respectfully,

JOHN L. WHETSTONE,
ISAAC GREENWALD.

AWARDS.

McGowan Bros. Pump & Machine Co., Lift and Force Pumps..*Large Silver Medal.*
Samuel Cummings & Son, Fire Plugs.....*Diploma.*
Nicholas Patterson & Co., Oil Can with Pump Attachment.....*Diploma.*

CLASS 1.—MACHINERY.

Section 3. Machinists' Tools.

JUDGES:

C. A. WILSON.

F. WEDGE.

W. R. DUNLAP.

No.	Exhibitor.	Residence.	Articles Exhibited.
28	H. Bates & Son.....	Dayton, O.....	Bates' Patent Self-Feeding Upright Hand Drill.
30	J. T. Hyndman.....	Cincinnati, O.....	Blacksmiths' Bellows.
108	Post & Co.....	".....	Engine Lathes.
109	Post & Co.....	".....	Shaper.
110	Post & Co.....	".....	Planer.
111	Post & Co.....	".....	Screw Machine.
112	Post & Co.....	".....	Upright Drill.
113	Post & Co.....	".....	Bolt Cutter.
114	Post & Co.....	".....	Milling Machine.
115	Post & Co.....	".....	Wrist Pin Lathe.
116	Post & Co.....	".....	Chucks, Tops, Rims, and Lathe Dogs.
124	Long, Black & Allstatter	Hamilton, O.....	Power Presses and Punches.
185	C. L. English.....	Cincinnati, O.....	Bellows.
186	C. L. English.....	".....	Portable Forges.
187	C. L. English.....	".....	Tweir Irons.
213	James Shaughnessy.....	".....	Grinding Attachment for Lathes.
214	Colville & Lomas.....	".....	Assortment of Machinists' Tools.
249	E. M. Mayo.....	".....	Bolt Cutter.
299	Steptoe, McFarlan & Co.	".....	Engine Lathes.
300	Steptoe, McFarlan & Co.	".....	Shaper.
301	Steptoe, McFarlan & Co.	".....	Universal Milling Machine.

CLASS 1, MACHINERY—SECTION 3, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1347	H. A. Glassford & Co.....	Cincinnati, O.....	Engine Lathes.
1348	H. A. Glassford & Co.....	"	Hand Lathe.
1351	H. A. Glassford & Co.....	"	No. 1 Bolt Cutter.
1352	H. A. Glassford & Co.....	"	No. 1 Hand Lever Punch.
1353	H. A. Glassford & Co.....	"	No. 4 Hand Lever Punch.
1354	H. A. Glassford & Co.....	"	No. 1 Hand Lever Shear.
1355	H. A. Glassford & Co.....	"	No. 4 Hand Lever Shear.
1358	H. A. Glassford & Co.....	"	Jewelers' Lathe.
1361	H. A. Glassford & Co.....	"	Upright Hand Drills.
1410	H. A. Glassford & Co.....	"	Ratchet Braces.
1411	H. A. Glassford & Co.....	"	Scroll Chuck.
1414	H. A. Glassford & Co.....	"	Barnes' Patent Double Swivel Patent Vises.
1349	H. A. Glassford & Co.....	"	Small Index Milling Machine.
1357	H. A. Glassford & Co.....	"	9-inch 4-jaw Lathe Chuck.
1350	H. A. Glassford & Co.....	"	Planer.
1368	W. G. Hyndman.....	"	Blacksmiths' Bellows.
1369	W. G. Hyndman.....	"	Patent Portable Forge.
1388	Stearns & Moseley.....	Franklin, Tenn.	Blacksmiths' Forge.
1389	Stearns & Moseley.....	"	Silversmiths' Forge.
1390	Stearns & Moseley.....	"	Boiler Makers' Forge.
1394	Niles Tool Works.....	Cincinnati, O.....	1 8-ft. Boring and Turning Mill.
1395	Niles Tool Works.....	"	Swing Engine Lathe.
1396	Niles Tool Works.....	"	Gray's Patent Universal Ra- dial Drill.
1433	Chas. Berckhemer.....	"	3 Jack Screws.
1462	Barnet & Snyder.....	Lafayette, Ind.....	Scheussler Patent Bolt Cutter.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges appointed for Class No. 1, Section No. 3, comprised of machinists' tools, in the classification of articles at the Cincinnati Industrial Exposition, have attended to their duties, and respectfully submit the following report:

We have examined the articles submitted to us simply with regard to their merits, without regard to their local origin. If we have erred in our judgment, we trust an appreciative public will speedily reverse our decisions. When possible, we have submitted the machinists' tools to actual tests. In all cases we have made critical examinations of the designs, material, and workmanship, and, while cheerfully testifying to

the skill of the inventors and makers in general, we have made such distinctive awards as we think are justly merited.

In our decisions we have made the following classification, viz.: Articles which we consider faultless in design and workmanship, we designate No. 1, meriting your highest award. Articles which we consider faulty, either in design or workmanship, we designate No. 2, meriting your second award. Articles which we consider faulty both in design and workmanship, but possessing some general points of merit, we designate No. 3, meriting your third award.

No. 1394. NILES TOOL WORKS, Cincinnati, Ohio, one eight-foot boring and turning machine. This is a horizontal machine, well adapted for boring, turning, and facing. The table revolves on a bearing under the extreme edge, and also on a center step. When desirable, the table can be quickly relieved from its outward bearing, and allowed to run light in the center step. This position is suitable for setting work, and boring and turning small sizes. The table can be readily restored to bear in any degree desirable; this is accomplished by a wedge under the step, operated by a screw easily accessible. The head operates at all angles, the feeds are automatic in all directions, the cross rail is strong and heavy, and is conveniently arranged to raise and lower by power, saving time and hard labor to the operator. The whole machine is well designed, combining massive strength with symmetrical proportions; the workmanship is unexceptionable throughout, even to the oiling arrangement, which is very convenient—a matter too often overlooked by tool builders. We unanimously pronounce this a No. 1 machine, and recommend your highest award.

No. 1396. NILES TOOL WORKS, Cincinnati, Ohio, one universal drilling machine (Gray's patent). The column which carries all the movable parts of the machine is supported on a strong bed plate, and swings round a stationary sleeve firmly bolted to the bed, and bearing well up in the interior of the column. The column is turned true and parallel on the outside, and the radial arm fitted snugly to it, is raised and lowered by power—a great convenience and saving of time. The

driving power is applied through the center of the column direct, which gives perfect freedom to the complete revolution of the machine, and transmitted to the upright shaft, thence to the horizontal shaft, which carries it to the spindle by means of two pairs of miter gears. The head, which carries the spindle, is moved to any desired position upon the arm by means of the horizontal screw. The drill swivels clear round on the head, and can be set vertical, horizontal, or at any desired angle. The combination of the swinging column carrying the entire machine with it, the raising and lowering of the arm, together with the complete swiveling capacity of the spindle, renders it perfectly automatic for all drilling purposes, and well adapted to drilling in any heavy piece of work without the necessity of moving it after it is brought within the range of the machine. The whole machine is strong and well proportioned, workmanship perfect. It excels all other machines of its kind that we have seen, and stands No. 1 in point of merit. We recommend it to your highest consideration.

No. 1395. NILES TOOL WORKS, Cincinnati, Ohio, one twenty-six inch swing engine lathe. This tool is of good design in strength and proportions, and shows excellent workmanship. The spindles are of steel, boxes of gun metal, cones turned out inside, which brings them into perfect balance; a sleeve gives a continuous bearing on the spindle. The wrenches, handles, and nuts are all of wrought iron, with wearing parts case hardened. The sliding surfaces are scraped to true bearings. The tool is well adapted in all its parts for general work, and stands No. 1 in point of merit.

No. 1347. H. A. GLASSFORD & Co., Cincinnati, Ohio, two engine lathes made by Lucius, Pond & Co., Worcester, Massachusetts. One thirteen-inch swing, one eighteen-inch swing. Some good points in the general arrangement. Workmanship defective. *Standard No. 3.*

No. 1348. H. A. GLASSFORD & Co., Cincinnati, Ohio, one hand lathe. A good common tool. *Standard No. 3.*

No. 1358. H. A. GLASSFORD & Co., Cincinnati, Ohio, one jewelers' lathe. Of no special merit. *Standard No. 3.*

No. 1350. H. A. GLASSFORD & Co., Cincinnati, Ohio, one planer, twenty-six inches by five feet. A strong tool, but poorly fitted. *Standard No. 3.*

No. 1349. H. A. GLASSFORD & Co., Cincinnati, Ohio, one small index milling machine. A well designed and useful tool, but defective in workmanship. *Standard No. 2.*

No. 1357. H. A. GLASSFORD & Co., Cincinnati, Ohio, one nine-inch four-jawed chuck. A common article. *Standard No. 3.*

No. 1411. H. A. GLASSFORD & Co., Cincinnati, Ohio, one three-inch scroll chuck. Possessing no special merit. *Standard No. 3.*

No. 1410. H. A. GLASSFORD & Co., Cincinnati, Ohio, two ratchet braces. A good, strong, and useful tool. *Standard No. 2.*

No. 1361. H. A. GLASSFORD & Co., Cincinnati, Ohio, three upright hand drills, two with balance wheels, one without. Good tools for the purpose intended, well adapted for carriage-makers and blacksmiths. *Standard No. 1.*

No. 1352. H. A. GLASSFORD & Co., Cincinnati, Ohio, one No. 1 Taft's patent hand lever punch. *Standard No. 2.*

No. 1353. H. A. GLASSFORD & Co., Cincinnati, Ohio, one No. 4 Taft's patent hand lever punch. *Standard No. 2.*

No. 1354. H. A. GLASSFORD & Co., Cincinnati, Ohio, one No. 1 Taft's patent hand shear. *Standard No. 2.*

No. 1355. H. A. GLASSFORD & Co., Cincinnati, Ohio, one No. 4 Taft's patent hand shear. *Standard No. 2.*

All useful tools.

No. 1414. H. A. GLASSFORD & Co., Cincinnati, Ohio, six Barne's patent double swivel vises. Well-made and useful tools for common work. *Standard No. 2.*

No. 1351. H. A. GLASSFORD & Co., Cincinnati, Ohio, one No. 1 bolt cutter. This machine has adjustable dies. The

head operates without stopping the work. A good machine for small work. *Standard No. 2.*

No. 1433. CHARLES BERCKHEMER, Cincinnati, Ohio, three jack screws. Strong and well made, with convenient arrangement for operating the bar. *Standard No. 2.*

No. 299. STEPTOE, McFARLAN & Co., Cincinnati, Ohio, one engine lathe, fourteen-foot bed, twenty-inch swing. A substantial tool for common work. The tool post raises and lowers on an inclined plane. Fair design, but defective in workmanship. *Standard No. 2.*

No. 300. STEPTOE, McFARLAN & Co., Cincinnati, Ohio, one shaping machine. A well-designed and convenient tool. The motion of the head that carries the cutting tool is effected by means of a lever of the first class, so hung as to give a slow motion to the cutting tool while making the cut, and a quick return motion—an important feature in tools of this kind. The vise or chuck for holding the work swivels horizontally in all directions—a very convenient arrangement. The general arrangement is good throughout. *Standard No. 1.*

No. 301. STEPTOE, McFARLAN & Co., Cincinnati, Ohio, one universal milling machine. A good tool, well proportioned, and well adapted to the purposes intended. *Standard No. 1.*

No. 108. Post & Co., Cincinnati, Ohio, four engine lathes, manufactured by the Pratt & Whitney Co., Hartford, Connecticut. Three of these lathes are arranged for cutting screws. The cones are all turned out inside and perfectly balanced; a sleeve extends the whole length of the cone and gives a continuous bearing on the spindle. The spindles are all of steel, boxes of cast iron, well fitted and bored true. All handles, nuts, and small gears are made of wrought iron; wrenches of steel; all parts liable to wear are case-hardened; all sliding surfaces are scraped to accurate bearings; the lead screws are made of steel, and the end thrust is sustained by steel collars and nuts. The screw is shielded by a sleeve that extends the whole length of the apron in front of the carriage, and is supported by a loose collar at each end of the carriage.

It carries two worms; one of which drives the lateral feed motion, the other drives the cross feed. The two half nuts for screw-cutting are operated by a screw with a milled head, easily accessible. The screw which drives the lateral and cross feeds is also used for screw-cutting, but is so arranged as to be free from wear except when used for that purpose. The lateral and cross feeds are so arranged as to operate separately or in conjunction, without detriment to either—a new and important arrangement. The three screw-cutting lathes are fitted with Slate's taper attachment on the back of the bed. This can be set to any taper, from one-sixteenth of an inch to the foot upward, and is a new device which we think indispensable to any lathe used for turning taper-work. The tool post on the large size lathes raises and lowers perpendicularly by a bolt in the center, and is well supported by an inner and outer sleeve, which gives great strength and steadiness—a new device, which will recommend itself to every practical operator. The large lathe has an extra rest and tool post, mounted on the end of the carriage, for turning pulleys and large pieces which will not swing over the carriage. The gibs are all wedge-shaped, which gives a uniform bearing the whole length—a new feature, well worthy of commendation. The dimensions of the screw-cutting lathes are fourteen-foot bed, twenty-six-inch swing; seven-foot bed, eighteen-inch swing; and seven-foot bed, fifteen-inch swing. One not screw-cutting is four-foot bed, thirteen-inch swing. These lathes are types of each other, and are perfect models of design, strength, beauty, and workmanship. *We unanimously pronounce them No. 1 in point of merit, and worthy of the highest award you can bestow.*

No. 109. One shaping machine; built by the PRATT & WHITNEY Co., Hartford, Connecticut. A good and substantial tool, well proportioned, except the arm which throws the head—which is a lever of the third class, so arranged as to give nearly the same uniform motion to the tool on the forward and backward motion. The vise or chuck for holding the work is somewhat defective in the swiveling arrangement. The workmanship on this tool is perfect. *Standard No. 2.*

No. 110. Post & Co., Cincinnati, Ohio, one planer—six feet long, twenty by twenty inches—manufactured by the Pratt & Whitney Co., Hartford, Connecticut. A substantial, well-made tool, strongly geared. The belt-shifter is of novel construction, by which the travel of the bed can be reduced to one and three-fourths inches—a valuable improvement. The tool-holder has lateral and down feed, and swivels to any angle. Workmanship unexceptionable. *Standard No. 1.*

No. 111. Post & Co., Cincinnati, Ohio, one set-screw machine, manufactured by the Pratt & Whitney Co., Hartford, Connecticut. A very ingenious and well constructed machine, well adapted for turning, cutting, and finishing set-screws from square iron or steel. The tool-holder is operated by a lever—a decided improvement over the screw for the same purpose. *Standard No. 1.*

No. 112. Post & Co., Cincinnati, Ohio, one upright drill, manufactured by the Pratt & Whitney Co., Hartford, Connecticut. Well proportioned and good workmanship. Easily operated and well adapted to the work. The spindle and supporting arm are counterbalanced by a weight sliding in the column. The spindle is strongly geared. The feed motion is automatic when desired, and very simple. All bearings on the spindle are of steel, and well secured. The table for holding the work swivels and raises and lowers with great ease. *Standard No. 1.*

No. 113. Post & Co., Cincinnati, Ohio, one bolt cutter, Merriman's patent, Fair Haven, Connecticut. Proportions, general arrangement, and workmanship good. The arrangement for holding the dies, taking up the wear and graduating the depth of the screw, meets our highest approbation. *Standard No. 1.*

No. 114. Post & Co., Cincinnati, Ohio, one milling machine, Union Vise Co., Boston, Massachusetts. No merit in design; workmanship poor.

No. 115. Post & Co., Cincinnati, Ohio, one wrist pin lathe, L. P. Goddard & Co., Worcester, Massachusetts. Design good; construction and workmanship poor. *Standard No. 2.*

No. 116. Post & Co., Cincinnati, Ohio, chucks, taps, reamers, lathe dogs, planer chuck, Horton's universal chucks. All good articles of their kind. *Standard No. 2.*

No. 1462. BARNET & SNYDER, one Scheussler patent bolt cutter. Design and arrangement for operating the dies not the best. Workmanship poor. *Standard No. 3.*

No. 249. E. M. MAYO, Cincinnati, Ohio, one bolt cutter. A strong machine, with some good points in arrangement; defective in the automatic arrangement for feeding. Poor workmanship. *Standard No. 2.*

No. 28. H. BATES & SON, Bates' patent self-feeding upright hand drill. Inferior in design and workmanship. *Standard No. 3.*

No. 124. LONG, BLACK & ALLSTATTER, Hamilton, Ohio, two power punches and shears. Strong and well made. A very useful machine for general work. *Standard No. 1.*

No. 213. JAMES SHAUGHNESSEY, one grinding attachment for lathes. No merit. Not practicable for the purpose intended.

No. 214. CINCINNATI TOOL HARDWARE WORKS, swivel vises, anvils, hammers, and swedges. Good strong tools. *Standard No. 2.*

No. 1433. CHARLES BERCKHEMER, three jack screws. No particular merit.

No. 185. C. L. ENGLISH, bellows. All good material and well made. *Standard No. 2.*

No. 186. C. L. ENGLISH, portable forge. A convenient, well made article, well adapted for the purpose. *Standard No. 2.*

No. 187. C. L. ENGLISH, tweeir irons. A common article, well adapted for general use. *Standard No. 3.*

No. 30. J. T. HYNDMAN, one blacksmiths' bellows. Defective.

No. 1368. W. G. HYNDMAN, three blacksmiths' bellows. A good common article. *Standard No. 2.*

No. 1369. W. G. HYNDMAN, one portable forge. A common article; no particular merit. *Standard No. 3.*

No. 1388. STARNES & MOSELEY, one blacksmiths' forge. A common article.

No. 1389. STARNES & MOSELEY, one silversmiths' forge. No particular merit.

C. A. WILSON,
F. WEDGE,
W. R. DUNLAP.

AWARDS.

Post & Co., Machinists' Tools.....*Large Silver Medal.*
Long, Black & Allstatter, Power Presses and Punches..*Large Silver Medal.*
C. L. English, Bellows and Portable Forges.....*Diploma.*
Colville & Lomas, Machinists' Tools.....*Diploma.*
Steptoe, McFarlan & Co., Shaper and Universal Milling Machine.....*Diploma.*
H. A. Glassford & Co., display of Machinists' Tools.....*Diploma.*
Niles Tool Works, Boring and Turning Mill, and Gray's Universal
Radial Drill.....*Gold Medal.*
E. M. Mayo, Bolt Cutter..*Diploma.*

CLASS 1.—MACHINERY.

Sec. 4. Wood Working Machinery.

JUDGES:

DANIEL STICKNEY.

JABEZ M. WATERS.

JAS. F. WELLINGTON.

No.	Exhibitor.	Residence.	Articles Exhibited.
5	Charles S. & S. Burt.....	Dunleith, Ill.....	Shingle Sawing Machine.
6	Charles S. & S. Burt.....	"	Shingle Sawing Machine, Combined Feeder.
7	Charles S. & S. Burt.....	"	Shingle Press and Buncher.
15	Silver & Deming	Salem, O.....	Silver's Hub Boring Machine.
18	Sharps, Davis & Bonsall.	"	Shingle and Head'g Machine.
53	Long, Joseph & Carter...	Indianapolis, Ind....	Staley Head Block.
73	E. B. Jennings.....	Rochester, N. Y.....	Dobson's Deflecting Strain Scroll Saw.
85	McBeth, Shaffer & Co....	Hamilton, O.....	Universal Wood Worker with Sticker Attachment.
86	McBeth, Shaffer & Co....	"	Universal Wood Worker with Boring and Routing At- tachment.
87	McBeth, Shaffer & Co....	"	Wood Boring Machine.
104	Daniel Stanley.....	Cincinnati, O.....	1 Band Saw.
105	Daniel Stanley.....	"	Chair Stretcher Machine.
106	A. Shearon.....	Richmond, Ind.....	Set of Head Blocks.
138	Richards, Kelley & Co...	Philadelphia, Penn..	Band Saw Machine.
139	James L. Haven & Co....	Cincinnati, O.....	Bedstead Routing Machine.
192	Owens, Lane, Dyer & Co	Hamilton, O.....	Circular Saw Mills.
193	Owens, Lane, Dyer & Co.	"	Saw Mill Head Blocks.
248	A. P. C. Bonte.....	Cincinnati, O.....	Eccentric Lathe.
264	American Mach. Works.	"	Scroll Saw.
282	Lee & Norton.....	"	Set of Head Blocks.
292	Steptoe, McFarlan & Co.	"	One 8-in. Woodworth Planer.
293	Steptoe, McFarlan & Co.	"	24-in. Planer and Matcher.
294	Steptoe, McFarlan & Co.	"	Weatherboard Saw.
295	Steptoe, McFarlan & Co	"	Iron Frame Moulding Ma- chine.
296	Steptoe, McFarlan & Co.	"	Tenon Machine.
297	Steptoe, McFarlan & Co.	"	4-foot Mortisers.
298	Steptoe, McFarlan & Co.	"	Blind Style Mortiser.
299	Steptoe, McFarlan & Co.	"	14-20 in. Engine Lathe.
1302	J. A. Fay & Co.....	"	Large Double Cylinder Floor- ing Siding and Ceiling Machine.
1303	J. A. Fay & Co.....	"	Small Combined Surfacers and FLOORER.
1304	J. A. Fay & Co.....	"	Circular Weatherboard Re- sawing Machine.
1305	J. A. Fay & Co.....	"	Band Sawing Machine.

CLASS 1, MACHINERY—SECTION 4, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1306	J. A. Fay & Co.....	Cincinnati, O.....	Combined Muley or Strain Scroll Saw.
1307	J. A. Fay & Co.....	"	Large Moulding Machine.
1308	J. A. Fay & Co.....	"	Medium Sash and Moulding Machine.
1309	J. A. Fay & Co.....	"	Small Sash and Door Moulding Machine.
1310	J. A. Fay & Co.....	"	Hub and Agricultural Mortiser.
1311	J. A. Fay & Co.....	"	Sash and Door Mortiser.
1312	J. A. Fay & Co.....	"	Sash Mortiser.
1313	J. A. Fay & Co.....	"	Endless Feed Surfacers.
1314	J. A. Fay & Co.....	"	Slat Tenoner for Blinds.
1315	J. A. Fay & Co.....	"	Sash and Door Tenoner.
1316	J. A. Fay & Co.....	"	Sash Tenoner.
1317	J. A. Fay & Co.....	"	Stand of Saw Mandrils.
1318	J. A. Fay & Co.....	"	Matching Knife Setter.
1319	J. A. Fay & Co.....	"	Blind Wirer.
1500	J. A. Fay & Co.....	"	Vibrating Scroll Saw.
1332	C. H. Stockell.....	Nashville, Tenn.....	Improved Picket Pointing Machine.
1397	M. G. Ogden.....	Cincinnati, O.....	Portable Scroll Saw (Exhibition only).
1398	M. G. Ogden.....	"	Portable Foot Power Scroll Saw.
1363	H. A. Glassford & Co.....	"	No. 1 Woodworth Planer and Matcher.
1364	H. A. Glassford & Co.....	"	Saw Arbors, New Patent Self-Oilers.
1440	John B. Barnes.....	Covington, Ky.....	Stave Dressing Machine.
1442	H & F. Blandy.....	Zanesville, O.....	Circular Saw Mill.
1456	Lane & Bodley.....	Cincinnati, O.....	Set of Head Blocks.
1457	Lane & Bodley.....	"	Power Mortising Machines.
1455	Lane & Bodley.....	"	Saw Mills (Ex. only).
1458	Lane & Bodley.....	"	Railway Cut-off Saw Machines (Ex. only).
1459	Lane & Bodley.....	"	Lathe Machine (Ex. only).
1460	Lane & Bodley.....	"	Bolting Saw (Ex. only).
1463	Sharps, Davis & Bonsall.	Salem, O.....	Shingle Jointer.
1472	Woodrough & McParlin..	Cincinnati, O.....	52-in. Circular Saw in motion.
1483	Blymyer, Norton & Co...	"	Circular Wood Sawing Machine.
1484	Blymyer, Norton & Co...	"	Drag Saw Mill.
1499	Henry Poehner	"	Barrel Heading Machine (Ex. only).
1762	E. F. Dunaway.....	"	Sash, Door and Blind Clamps.
1763	E. F. Dunaway.....	"	Blind Wiring Machine.
1768	Josiah Kirby.....	"	Bung Machine.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—As Judges selected to examine the articles exhibited in Class 1, Section 4, and to determine the comparative and intrinsic merits of the same, we respectfully ask leave to submit the following report:

Many of the machines in this section give evidence of thorough mechanical skill in their construction; and in the execution of the work for which they are designed, they are, in our judgment, unsurpassed. Some of them, however, not having power applied, could not, of course, give us an exhibition of their “executive abilities.”

In determining the merits of the circular saw mills presented, we regard the work they were required to perform in exhibition as “mere play” in comparison with what would be expected from them in the practical operations for which they are designed; yet as much was done, perhaps, as would be practicable in an exhibition of this kind, and sufficient to enable us to determine their merits. We regard the mill exhibited by Messrs. LANE & BODLEY superior in mechanical skill and practical operation, and worthy highest commendation. The mill of Messrs. H. & F. BLANDY, also, is simple in construction, efficient in execution, and worthy a high degree of merit. Both these mills are first-class machines in their construction and operation, and in determining their claims to merit, we regard their respective head block as essential features, and include them in the term “mill.”

The mill of Messrs. OWENS, LANE, DYER & Co. not having power applied, could not be subjected to practical tests to determine its efficiency; but our examination of the machine, in connection with its head block, leads us to regard it as a good working mill, but not so ready and reliable in its operation as the two before mentioned. We consider the head blocks exhibited by Messrs. LANE & BODLEY as possessing the

best general merit, but those of Messrs. LEE & NORTON as the most reliable and easily operated of any on exhibition for competition. The other sets exhibited are more complicated in action, and, in our judgment, not worthy so high commendation.

The band saw machines surpass any mechanism of the kind hitherto exhibited within our observation, and the progress made in the construction and development of the machine is highly creditable to American skill and ingenuity. The machines exhibited by Messrs. RICHARDS, KELLEY & Co., and that by Messrs. J. A. FAY & Co., are so similar in their general construction, that almost equal merit belongs to each; but, for reliability and facility of action, we would award the highest degree of merit to the machine of Messrs. RICHARDS, KELLEY & Co., and, for skill in workmanship, the greatest merit to Messrs. J. A. FAY & Co. The machine exhibited by DAN'L STANLEY is simple and cheap, and worthy recommendation to parties desiring a low price band saw machine.

In examining the reciprocating scroll saws, our attention was called to the various devices for the purpose of giving and retaining tension or strain to the saw, which is the principal feature possessing novelty in this kind of machinery. The contrivance for that purpose, as exhibited by E. B. JENNINGS, and numbered 73, seems to us to possess the highest merit; the one presented by the AMERICAN MACHINE WORKS is quite novel in design, and, so far as we could learn, efficient in operation, but we do not think the arrangement for the tension of the saw would be so reliable and uniform in continued use as that of E. B. JENNINGS, and therefore can not regard it as possessing equal merit. These two are the only machines of this kind that we deem meritorious.

In determining the merits of flooring machines presented, we think the double cylinder machine exhibited by Messrs. J. A. FAY & Co., and numbered 1302, a first-class and finely finished machine, but more complicated, and requiring more power to run it than necessary in a machine for that purpose.

The eight-inch Woodworth planer and matcher exhibited by Messrs. STEPTOE, McFARLAN & Co., No. 292, is a good, practical machine, easily worked, substantially built, not expensive, and is, we think, entitled to a high degree of merit.

The twenty-four inch Farrer planer and matcher exhibited by Messrs. STEPTOE, McFARLAN & Co., No. 293, is a No. 1 machine of its class, and the most practicable combined flooring and surfacing machine we know of.

The two combined flooring and surfacing machines of Messrs. J. A. FAY & Co., and numbered 1303, and Messrs. H. A. GLASSFORD & Co., No. 1363, are good machines of the kind, but we discover nothing about them calling for special consideration.

The Farrer surfacing machine exhibited by Messrs. J. A. FAY & Co., No. 1313, is an excellent machine, finely finished, and entitled to the highest merit.

The large sized moulding machine of Messrs. J. A. FAY & Co., No. 1307, is a very complete machine in all its parts, executing its work with power and accuracy, and we deem it worthy the highest commendation.

The medium sized moulding machine of Messrs. J. A. FAY & Co., No. 1308, is a good machine, and worthy of mention.

The small moulding machines, No. 1309, of Messrs. J. A. FAY & Co. and No. 295, of Messrs. STEPTOE, McFARLAN & Co., are good, practical machines for ordinary work.

The power hub mortising machine exhibited by Messrs. LANE & BODLEY, No. 1457, is a very complete and superior machine, executing with power and precision the work for which it is designed.

The power hub mortiser, No. 1310, of Messrs. J. A. FAY & Co., is a machine of superior finish, executing its work with equal facility. Both these machines are worthy special merit.

The power mortisers, Nos. 1311 and 1312, of Messrs. J. A.

FAY & Co., are good, practical machines, of superior finish, and well worthy commendation.

The four-foot mortisers, No, 297, of Messrs. STEPTOE, McFARLAN & Co., are worthy of honorable mention, and are the only machines of the kind on exhibition.

The sash and door tenoning machine, No. 1315, of Messrs. J. A. FAY & Co., is an excellent machine of superior finish; also the small sized sash tenoner, No. 1316, is a good machine, and worthy of consideration.

The tenon machine, No. 296, of Messrs. STEPTOE, McFARLAN & Co., is a good, practical machine, performing its work equally as well as No. 1315, but not exhibiting so high a degree of finish in construction.

The blind stile mortiser, No. 298, of Messrs. STEPTOE, McFARLAN & Co., is, apparently, a very useful and efficient machine, and justly entitled to honorable mention.

The slat tenoner, No. 1314, of Messrs. J. A. FAY & Co., is a reliable and good working machine, and the best for that purpose that has come within our observation.

In determining the merits of weatherboard saws, the one exhibited by Messrs. J. A. FAY & Co., No. 1304, we consider the most practical and reliable. The one of Messrs. STEPTOE, McFARLAN & Co., No. 294, is a very good machine, and worthy of commendation.

We consider the stand of saw mandrils exhibited by Messrs. J. A. FAY & Co., No. 1317, superior in finish and possessing a higher degree of merit than those exhibited by Messrs. H. A. GLASSFORD & Co.

The matching knife setter of Messrs. J. A. FAY & Co, No. 1318, we consider a useful machine, of great convenience and accuracy.

The blind wirer exhibited by E. F. DUNAWAY, No. 1763, is a very superior machine, and worthy of the highest commendation.

The sash, door, and blind clamps, No. 1762, of E. F. DUNAWAY are good devices, and worthy of merit. They are convenient, efficient, and accurate in their operation.

The hub boxing machine, No. 15, of Messrs. SILVER & DEMING; the wood boring machine, No. 87, of Messrs. McBETH, SHAFFER & Co.; the chair stretcher machine, No. 105, of DANIEL STANLEY; the routing machine, No. 139, of Messrs. J. L. HAVEN & Co.; the eccentric turning lathe, No. 248, of A. P. C. BONTE; and the picket pointing machines, No. 1332, of C. H. STOCKELL; are all excellent machines, and worthy of high commendation; but as every one of them is without competition, we can not pass upon their comparative merits. The lath saw, No. 1459; and the bolting saw, No. 1460; and the railway cut-off saws, No. 1458; exhibited by Messrs. LANE & BODLEY, are all excellent machines, and worthy of commendation.

The drag saw mill, No. 1484, of Messrs. BLYMYER, NORTON & Co., is a valuable machine, and worthy of notice. Their circular wood sawing machine, No. 1483, is a useful machine, but presents nothing new in its features.

The stave dressing and jointing machine, No. 1440, of JOHN B. BARNES, we do not deem worthy of such consideration as would justify us in enlarging upon its merits.

The universal wood worker, and attachments, Nos. 85 and 86, exhibited by Messrs. McBETH, SHAFFER & Co., we deem are very valuable machines, and worthy of the highest degree of merit.

In investigating the comparative merits of the two shingle machines in operation, we did not discover any notable difference in the quality of the work performed by each—and both gave us excellent samples of sawed shingles.

In the machine of Messrs. SHARPS, DAVIS & BONSALE, No. 18, the end of the bolt is presented to the saw, making the cut across the shingle, while in that of Messrs. Charles S. & S. BURT, No. 6, the side of the bolt is presented, making the cut

of the saw lengthwise the shingle. Most of the builders with whom we conversed in the matter give the preference to the style of shingle cut by machine No. 6. In readiness of action and adaptation to the irregularities that often occur in preparing the bolts for the saw, and in its general capabilities, we deem the machine exhibited by Messrs. CHARLES S. & S. BURT entitled to the highest merit.

The hand-feed shingle sawing machine of Messrs. C. S. & S. BURT, No. 5, was not in operation, but, in its structure and manner of working, we regard it as a good machine of the kind.

In judging of the "best general display," we regard not only the variety of machines exhibited by the competitors, but also the style of workmanship in their structure; and we consider the display of Messrs. LANE & BODLEY as superior in variety and character to that of any other exhibitor; while in beauty and excellence of finish we regard that of Messrs. J. A. FAY & Co. as entitled to the highest degree of merit.

DANIEL STICKNEY,
JABEZ M. WATERS,
J. F. WELLINGTON.

SUPPLEMENTAL REPORT.

The bung machine, on exhibition by Mr. JOSIAH KIRBY, is, in the opinion of the Judges, as near perfection in its operations as human ingenuity can invent for that kind of work; and although there was no other similar machine on exhibition, by means of which we could institute a comparison, yet we deem this one, of itself, sufficiently meritorious to entitle to the highest degree of consideration.

DANIEL STICKNEY,
JABEZ M. WATERS,
J. F. WELLINGTON.

AWARDS.

Chas. S. & S. Burt, Shingle Sawing Machine.....	Diploma.
Silver & Deming, Hub Boring Machine.....	Diploma.
Sharps, Davis & Bonsall, Shingle and Heading Machine.....	Diploma.
E. B. Jennings, Dobson Deflecting Strain Scroll Saw.....	Diploma.
McBeth, Shaffer & Co., Universal Wood Workers.....	Small Silver Medal.
McBeth, Shaffer & Co., Wood Boring Machine.....	Diploma.
Daniel Stanley, Band Saw.....	Diploma.
Daniel Stanley, Chair Stretcher Machine.....	Diploma.
Richards, Kelley & Co., Band Saw Machine.....	Large Silver Medal.
James L. Haven & Co., Bedstead Routing Machine.....	Diploma.
A. P. C. Bonte, Eccentric Lathe.....	Diploma.
Lee & Norton, Set of Head Blocks.....	Diploma.
Steptoe, McFarlan & Co., Wood Working Machinery.....	Large Silver Medal.
J. A. Fay & Co., Wood Working Machinery.....	Gold Medal.
C. H. Stockell, Picket Pointing Machine.....	Diploma.
H. & F. Blandy, Circular Saw Mills.....	Diploma.
E. F. Dunaway, Blind Wiring Machine..	Diploma.
Josiah Kirby, Bung Machine...	Large Silver Medal.
Owens, Lane, Dyer & Co., Circular Saw Mill.....	Diploma.

CLASS 1.—MACHINERY.

Sec. 5. Cotton, Wool, Printing and Book-Binding, Paper and Hemp Machinery.

JUDGES:

JAMES PEARCE.

WILLIAM PORTER.

J. C. CHAPMAN.

No.	Exhibitor.	Residence.	Articles Exhibited.
20	Blackburn, Hames & Co.	West Liberty, O.....	Improve'nt on Power Looms.
50	Zerbe, Perine & Co..	Cincinnati, O.....	Attachment for Looms.
72	John R. Hoole & Son.....	"	Patent Paper Cutter.
183	Greenwood Loom Co.....	"	Mendenhall's Self Acting Hand Loom.
200	A. F. Gibboney.....	Belleville, Pa.....	Patent Power Loom.
215	Middleport Woolen Mills	Middleport, O.....	Power Looms.
223	Allison, Smith & Johnson	Cincinnati, O.....	Type Casting Machine.
1403	Allison, Smith & Johnson	" ..	No. 40 Case Printers' Cabinet.
243	J. P. Lindsay & Co.....	"	Tag and Card Machine Combined.
244	J. P. Lindsay & Co.	"	Eyelet Machine.
260	J. P. Lindsay & Co.....	"	Printing Press.
1342	J. P. Lindsay & Co.....	"	Job Press.

CLASS 1, MACHINERY—SECTION 5, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
251	Cincinnati Type Foundry Co.....	Cincinnati, O.....	4-Roller Stop Cylinder Press.
252	Cincinnati Type Foundry Co.....	"	Job Presses.
253	Cincinnati Type Foundry Co.....	"	Hand Press.
254	Cincinnati Type Foundry Co.....	"	Paper Cutter.
255	Cincinnati Type Foundry Co.....	"	Hand Cylinder Press.
256	Cincinnati Type Foundry Co.....	"	Iron Stand.
257	Cincinnati Type Foundry Co.....	"	Stereotype Chiseling Machine
258	Cincinnati Type Foundry Co.....	"	Paper Plow.
259	Cincinnati Type Foundry Co.....	"	Cabinet and Cases.
1431	J. Wilder & Co.....	"	Straw, Rag, and Rope Cutter.
1485	Jas. L. Bransom.....	"	Hand Loom.
1497	Jas. Smith & Co.....	Philadelphia, Pa.....	Card Clothing.
1498	Frederick Miller.....	Providence, R. I.....	Reeds and Harnesses, and Manufacturers' Supplies.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—In making this report, your Committee would say that they have been governed by what has appeared to them best in their own judgment; and, while they may have erred, it has been their sincere desire to award praise where it is justly due, and without a particle of ill-will or prejudice for others against whom they may have discriminated. They have met with nothing but good feeling among the exhibitors, and have performed what to them is a disagreeable task, with as much diligence as they could bestow. It was difficult, where all was so good, to arrive at the conclusion as to which was the best; and cases may occur where they have failed to appreciate certain machines; but they would reassert that they have used their best endeavors to arrive at just conclusions, and respectfully present this as their report:

No. 20. BLACKBURN, HAINES & Co., improvement on power

loom; is a neat little model of a loom, the shuttle of which is thrown by means of springs. It works equally well whether the machine is driven fast or slow.

No. 50. ZERBE, PERINE & Co., attachment for looms. Not found.

No. 72. JOHN R. HOOLE & SON, patent paper cutter; is a strong, neat, compact machine. The combinations are complete and finely proportioned. The finish is excellent. All the working parts are most superbly fitted. It is easily adjusted, not liable to get out of order, and subject to very little repairs. It works with great precision, is arranged with much convenience for the operator, and requires little power. In our judgment it is a most capital machine.

No. 183. GREENWOOD LOOM CO., Mendenhall's self-acting hand loom; is a very excellent hand loom, simple in its construction, very neat, requires little room, power and skill to adjust and operate it. We think it most admirably adapted to the purpose for which it is designed; in fact, we think it all that could be desired for hand work.

No. 200. A. F. GIBBONEY, patent power loom. The harness is attached by a new power—the cam; but the Committee can see no improvement over the old combination.

No. 215. MIDDLEPORT WOOLEN MILLS, two power looms; is a power loom capable of weaving a great variety of patterns. It can be easily and quickly changed from one pattern to another. It is substantial in all its parts, compact, and not liable to get out of order. It is necessarily complicated, yet the combinations are so simple that it requires only ordinary skill to adjust and operate it in the production of the very first quality of goods. It is really a machine of great merit.

No. 223. ALLISON, SMITH & JOHNSON, type casting machine; involves no new principle, but is worthy of mention as very complete and labor saving.

No. 243. J. P. LINDSAY & Co., tag and card-combined machine; is a machine for cutting cards and tags. It is neat and

complete; requires little power and skill to operate it; works with wonderful rapidity, executes its work in the very best style, and is a most excellent machine for the purpose. The Committee recommend it specially.

No. 251. CINCINNATI TYPE FOUNDRY Co., four roller stop cylinder. Complete in point of workmanship, combining many advantages over any machine the Committee have knowledge of. The Committee fully tested its working qualities, and found that for regularity of movement, great strength, and the easiness with which the machine is regulated, the little space it occupies, and the fineness of its general detail, is calculated to make it a favorite press for fine work.

No. 252. CINCINNATI TYPE FOUNDRY Co., four job presses. The Committee heartily recommend these presses as the best on exhibition. The attachment for working in colors on all of them is a step towards perfection in color printing, while the cutting off of the rollers, so that only so much of the surface is used as the job requires, will result in a great saving of ink. They are admirably adapted for all kinds of job work, being cheap, durable, and not liable to get out of order.

No. 253. CINCINNATI TYPE FOUNDRY Co., hand press. Nothing new, except being exquisitely made.

No. 254. CINCINNATI TYPE FOUNDRY Co., paper cutter; very strong, finely made, and well adapted to the uses to which it is put.

No. 255. CINCINNATI TYPE FOUNDRY Co., hand cylinder press; recommends itself as a complete, easily worked, and cheap power press.

No. 256. CINCINNATI TYPE FOUNDRY Co., iron stand. Far better than the old wooden ones, as being cleaner and more durable.

No. 258. CINCINNATI TYPE FOUNDRY Co., paper plow. Nothing new.

No. 259. CINCINNATI TYPE FOUNDRY Co., cabinet cases; strong and well made.

No. 260. J. P. LINDSAY & Co., printing press, "Liberty."
Very good machine.

No. 1342. Same.

No. 1403. ALLISON, SMITH & JOHNSON, No. 40 case printers' cabinet. Beautiful in finish; an ornament to a printing office, and finely adapted to the wants of the trade.

No. 1431. J. WILDER & Co., straw, rag, and rope cutter. Strong and well adapted to the use to which it is put.

No. 1485. JAMES L. BRANSON, hand loom, designed for power also. It deserves much consideration. All the old appliances for operating the shuttle are abandoned, and an entirely new mode introduced, which is original and most novel. The parts are few and simple, and look as if the desired end would be well accomplished. But we have no means at hand for putting the machine to that practical test which would justify us in passing upon it, so as to do justice to the exhibitor or ourselves.

No. 1497. JAMES SMITH & Co., card clothing. All very extra.

No. 1498. FRED. MILLER, cotton and woolen manufacturers' supplies. All very extra.

JAMES PEARCE,
J. C. CHAPMAN,
WM. PORTER.

AWARDS.

John R. Hoole & Son, Paper Cutter.....*Diploma.*
Greenwood Loom Co., Mendenhall's Self-Acting Hand Loom.....*Diploma.*
Middleport Woolen Mills, Power Looms.....*Diploma.*
J. P. Lindsay & Co., Tag and Card Machine combined.....*Diploma.*
Cincinnati Type Foundry Co., Printing Machinery.....*Large Silver Medal.*
Allison, Smith & Johnson, Printers' Cabinet.....*Diploma.*
J. Wilder & Co., Straw, Rag, and Rope Cutter.....*Diploma.*
James L. Branson, Hand Loom.....*Diploma.*
James Smith & Co., Card Clothing.....*Diploma.*
Frederick Miller, Reeds and Harnesses, and Manufacturers' Supplies..*Diploma.*

complete; requires little power and skill to operate with wonderful rapidity, executes its work in the style, and is a most excellent machine for the purpose. The Committee recommend it specially.

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No. 253. CINCINNATI
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No. 254. CINCIN
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No. 255. C
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No

No. 260. J. P. L.
Very good machine

SECTION 6, CONTINUED.

No. 1342.		Articles Exhibited.
No. 140		
cabinet.	By.....	Rustic Fish and Flower Stand.
office.	.....	Rustic Hanging Baskets.
	Id, O.....	Superior Grain Drill and Grass Seeder Combined.
	.....	Superior Grain Drill with Fertilizer Attachment.
	anati, O.....	Churns.
	ton, O.....	Case of Reaping Machines, Sickles, Mower Knives, etc.
	".....	Mowing Machine.
	".....	Sulky Steel Tooth Horse Rake.
	".....	Straw and Fodder Cutter Combined.
	".....	Straw Cutter.
	".....	Corn Husking Machine.
	Cincinnati, O.....	Derrick Stump Puller and Rock Extractor.
	".....	American Cider Mills.
	".....	Hand Straw Cutters.
	".....	Hand Corn Shellers.
	".....	Sugar Mill.
	".....	Cane Mills.
	".....	Road Scrapers.
	".....	Corn Mill.
	".....	No. 0 Cotton and Corn Plow.
	".....	No. 1 Cotton and Corn Plow.
	".....	No. 4 Stubble Plow, Right Hand.
	".....	No. 4 Medium Plow, Right Hand.
	".....	No. 4 General Purpose Plow, Right Hand.
	".....	No. 5 Stubble Plow, Right Hand.
	".....	No. 6 Stubble Plow, Right Hand.
	".....	No. 6 Medium Plow, Right Hand.
	".....	No. 6 General Purpose Plow, Right Hand.
	".....	No. 10 Sod Plow, Right Hand.
	".....	No. 4 General Purpose Plow, Right Hand.
	".....	No. 4 Stubble Plow, Left Hand.
	".....	No. 5 Stubble Plow, Left Hand.
	".....	No. 4 Medium Plow, Left Hand.
	".....	No. 5 General Purpose Plow, Left Hand.
	".....	No. 6 Medium Plow, Left Hand.
	".....	No. 6 General Purpose Plow, Left Hand.

CLASS 1.—MACHINERY.

Sec. 6. Agricultural Implements and Machinery.

JUDGES:

On the General Articles of the Section.

J. DAN JONES.

JOHN STEPTOE.

C. W. FRIEND.

On Mowers, Reapers, and Attachments.

ALEX. GORDON.

W. R. DUNLAP.

GEORGE JOHNSON.

This Class was subdivided and the Judges examined as represented above.

No.	Exhibitor.	Residence.	Articles Exhibited.
2	Hoosier Drill Co.....	Milton, Ind.....	2-Horse Drill with Fertilizing Attachment.
3	Hoosier Drill Co.....	"	2-Horse Grain Drill.
4	Hoosier Drill Co.....	"	1-Horse Drill.
11	John Dodds & Co.....	Dayton, O.....	Wheel Horse Rake.
16	Ætna Manufacturing Co	Salem, O.....	Combined Mower and Reaper.
19	A. J. Ohmer.....	Hamilton, O.....	Ohmer's Trimming Lawn Mower.
25	Mansfield Mach. Works..	Mansfield, O.....	Mansfield Mower.
26	Mansfield Mach. Works..	"	Mansfield Combined Reaper and Mower.
39	A. Pritz & Sons.....	Dayton, O.....	Dorsey's Combined Self-Raker and Reaper.
40	A. Pritz & Sons.....	"	Strayer's Force Feed Grain Drill.
46	Bode & Binder.....	Cincinnati, O.....	Sod Plows.
47	Bode & Binder.....	"	All Purpose Plows.
48	Bode & Binder.....	"	Corn Plows.
51	Zerbe, Perine & Co.....	"	Hay Rake.
52	Zerbe, Perine & Co.....	"	Hay Fork.
56	E. Ball & Co..	Canton, O..	World Mower.
58	Samuel Males.....	Cincinnati, O.....	American Cider and Wine Mills.
77	Thomas Cottman.....	"	Sod Plows.
78	Thomas Cottman.....	"	General Use Plows.
79	Thomas Cottman	"	Loose Ground Plows.
80	Thomas Cottman.....	"	Corn Plows.
81	Thomas Cottman.....	"	Subsoil Plows.
82	Thomas Cottman.....	"	Hillside Plows.
83	Thomas Cottman.....	"	Double Shovel Plow.
84	Thomas Cottman.....	"	Cultivator.
91	Champion Machine Co...	Springfield, O.....	No. 4 Single Mower.
94	Jacob Ritter... ..	Butler Co., O.....	Fan Grain and Grass Seed Screen Combined.
98	J. McGibbon.....	Lima, O.....	Swarth Stick for Mower.
99	R. J. Ellis.....	Newport, Ky.....	Rustic Stand with Arch.

CLASS 1, MACHINERY—SECTION 6, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
100	R. J. Ellis.....	Newport, Ky.....	Rustic Fish and Flower Stand.
101	R. J. Ellis.....	".....	Rustic Hanging Baskets.
102	Ferrell, Ludlow & Rogers	Springfield, O.....	Superior Grain Drill and Grass Seeder Combined.
103	Ferrell, Ludlow & Rogers	".....	Superior Grain Drill with Fertilizer Attachment.
119	Waters & Barrett.....	Cincinnati, O.....	Churns.
125	Long, Black & Allstatter.	Hamilton, O.....	Case of Reaping Machines, Sickles, Mower Knives, etc.
126	Long, Black & Allstatter.	".....	Mowing Machine.
127	Long, Black & Allstatter.	".....	Sulky Steel Tooth Horse Rake.
128	Long, Black & Allstatter.	".....	Straw and Fodder Cutter Combined.
129	Long, Black & Allstatter.	".....	Straw Cutter.
130	Long, Black & Allstatter.	".....	Corn Husking Machine.
135	Charles P. Williams.....	Cincinnati, O.....	Derrick Stump Puller and Rock Extractor.
141	James L. Haven & Co....	".....	American Cider Mills.
142	James L. Haven & Co....	".....	Hand Straw Cutters.
143	James L. Haven & Co....	".....	Hand Corn Shellers.
144	James L. Haven & Co....	".....	Sugar Mill.
145	James L. Haven & Co....	".....	Cane Mills.
146	James L. Haven & Co....	".....	Road Scrapers.
147	James L. Haven & Co....	".....	Corn Mill.
148	G. C. Miller & Co.....	".....	No. 0 Cotton and Corn Plow.
149	G. C. Miller & Co.....	".....	No. 1 Cotton and Corn Plow.
150	G. C. Miller & Co.....	".....	No. 4 Stubble Plow, Right Hand.
151	G. C. Miller & Co.....	".....	No. 4 Medium Plow, Right Hand.
152	G. C. Miller & Co.....	".....	No. 4 General Purpose Plow, Right Hand.
153	G. C. Miller & Co.....	".....	No. 5 Stubble Plow, Right Hand.
154	G. C. Miller & Co.....	".....	No. 6 Stubble Plow, Right Hand.
155	G. C. Miller & Co.....	".....	No. 6 Medium Plow, Right Hand.
156	G. C. Miller & Co.....	".....	No. 6 General Purpose Plow, Right Hand.
157	G. C. Miller & Co.....	".....	No. 10 Sod Plow, Right Hand.
158	G. C. Miller & Co.....	".....	No. 4 General Purpose Plow, Right Hand.
159	G. C. Miller & Co.....	".....	No. 4 Stubble Plow, Left Hand.
160	G. C. Miller & Co.....	".....	No. 5 Stubble Plow, Left Hand.
161	G. C. Miller & Co.....	".....	No. 4 Medium Plow, Left Hand.
162	G. C. Miller & Co.....	".....	No. 5 General Purpose Plow, Left Hand.
163	G. C. Miller & Co.....	".....	No. 6 Medium Plow, Left Hand.
164	G. C. Miller & Co.....	".....	No. 6 General Purpose Plow, Left Hand.

CLASS 1, MACHINERY—SECTION 6, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
165	G. C. Miller & Co.....	Cincinnati, O.....	No. 7 General Purpose Plow, Left Hand.
166	G. C. Miller & Co.....	"	No. 10 Sod Plow, Left Hand.
167	G. C. Miller & Co.....	"	No. 1 Hillside Plow, Right or Left Hand.
168	G. C. Miller & Co.....	"	No. 2 Hillside Plow, Right or Left Hand.
169	G. C. Miller & Co.	"	1 Double Shovel Plow.
170	G. C. Miller & Co.....	"	Single Shovel Plow.
171	G. C. Miller & Co.....	"	Cultivator.
172	G. C. Miller & Co.....	"	Road Plow.
175	J. Earnshaw.....	"	Buckeye Mower and Reaper.
176	J. Earnshaw.....	"	Cast Steel Plows.
177	J. Earnshaw.....	"	Sandford Cutting Boxes.
178	J. Earnshaw.....	"	Buckeye Cider Mills.
179	J. Earnshaw.....	"	2-Horse Grain Drill.
180	J. Earnshaw.....	"	1-Horse Grain Drill.
181	J. Earnshaw.....	"	Eagle Cutting Boxes.
182	J. Earnshaw.....	"	Rotating Harrow.
201	J. Earnshaw.....	"	Corn Sheller.
202	J. Earnshaw.....	"	Lawn Mower. [Presses.
203	J. Earnshaw.....	"	Combined Cider Mills and
204	J. Earnshaw.....	"	Vibrating Churns.
205	J. Earnshaw.....	"	Red Jacket Churns.
206	J. Earnshaw.....	"	Improved Tiffin Hay Rake.
188	R. M. Bishop & Co.....	"	Climax Mower.
189	R. M. Bishop & Co.....	"	Climax Reaper.
190	R. M. Bishop & Co.....	"	Reaper with Dropper Attach.
191	R. M. Bishop & Co.....	"	Combined Reaper and Mower.
196	Owens, Lane, Dyer & Co.	Hamilton, O.....	Threshing Machines.
210	Hays & Church.....	Cincinnati, O.....	Pioneer Stump Puller and Rock Lifter.
216	J. Wilder & Co.....	"	Wheat Drill.
219	J. Wilder & Co.....	"	Horse Lawn Mower.
221	J. Wilder & Co.....	"	Hay, Straw, and Stalk Cutter.
222	J. Wilder & Co.....	"	Churns.
1426	J. Wilder & Co.....	"	Sulky Hay Rake.
1427	J. Wilder & Co.....	"	Harpoon Horse Pitchfork.
1428	J. Wilder & Co.....	"	Sod Plow.
1429	J. Wilder & Co.....	"	General Purpose Plow.
1430	J. Wilder & Co.....	"	Display of Field Seeds.
217	Clipper Reaper & Mower Co.....	"	Mowing Machine.
218	Graham, Emlen & Passmore.....	Philadelphia, Pa....	Philadelphia Lawn Mower.
224	Augher & Parrott.....	Dayton, O.....	1-Horse Plows.
225	Augher & Parrott.....	"	2-Horse Plows.
229	Aultman Steel Co.....	Canton, O.....	Hoes and Mattock.
242	L. Waltz.....	Dayton, O.....	Dayton Horse Hay and Straw Fork.
265	Lewis Duvall.....	Louisville, Ky.....	Hand Cultivator.
291	W. & J. Campbell.....	Harrison, O.....	Corn Planter.
1321	Thos. Cottman.....	Cincinnati, O.....	Michigan Double Plow.

CLASS 1, MACHINERY—SECTION 6, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1322	Thos. Cottman.....	Cincinnati, O.....	Single Shovel Plow.
1466	Thos. Cottman.....	"	Road Plow.
1323	Royer Wheel Co.....	"	Plow Handles.
1371	J. T. Wickersham.....	Xenia, O	Corn Planters.
1372	Industrial Plow Co.....	St. Louis, Mo.....	Single Shovel Plow.
1373	Industrial Plow Co.....	"	Double Shovel Plow.
1374	Industrial Plow Co.....	"	Triple Shovel Plow.
1375	Industrial Plow Co	"	No. 7 Plow.
1376	Industrial Plow Co.....	"	No. 11 Plow.
1377	Industrial Plow Co.....	"	8-inch Cotton Plow.
1378	Industrial Plow Co.....	"	12-inch Break-Up Plow.
1379	Industrial Plow Co.....	"	C No. 12 Plow.
1391	John B. Barnes.....	Covington, Ky.....	Corn Mill.
1399	C. P. Hale.....	Calhoun, Ky.....	Raking, Scraping, Loading, and Elevating Apparatus.
1400	C. P. Hale.....	"	Sorghum Stripper.
1405	Howell Gano & Co.....	Cincinnati, O.....	Eagle Straw Cutters.
1406	Howell Gano & Co.....	"	Set of Hagerman's Patent Iron Measures.
1407	Howell Gano & Co.....	"	Nangle & Olleman's Patent Hoes.
1408	Howell Gano & Co.....	"	Nangle & Olleman's Patent Hand Cultivator.
1419	Howell Gano & Co.....	"	Card of Blood Scythes.
1409	Coffin & Standish.....	Boston, Mass.....	Steam Plow.
1412	G. C. Miller & Co.....	Cincinnati, O.....	Pyramid of Plow Moulds and Shears.
1417	John W. Corwin.....	Lebanon, O.....	Potato Digger.
1420	W. R. Kinney.....	Portsmouth, O.....	Harrow. [Power.
1422	C. C. Winchell & Co.....	Cincinnati, O.....	Eagle Straw Cutters, Hand
1423	C. C. Winchell & Co.....	"	Eagle Straw Cutters, Steam Power.
1432	F. M. Stearns.....	Berea, O.....	Scythe and Kitchen Stones.
1434	Wm. H. Payne.	Janesville, Wis.....	Grain Binder.
1438	Louis Ronat.....	Pendleton, O.....	Harrow and Plow Model.
1447	Clark Sintz.....	Springfield, O....	Star Corn and Cotton Plow and Cultivator.
1464	A. Pelham	Tecumseh, Mich	Revolving Horse Rake.
1477	Blymyer, Day & Co.....	Mansfield, O.....	Endless Apron Horse Power.
1478	Blymyer, Day & Co.....	"	8-Horse Power Lever.
1479	Blymyer, Day & Co.....	"	Grain Drill.
1480	Blymyer, Day & Co.....	"	Farm Threshing Machine.
1481	Blymyer, Norton & Co...	Cincinnati, O.....	Horizontal Sugar Cane Mill.
1482	Blymyer, Norton & Co...	"	Vertical Sugar Cane Mill.
1770	Blymyer, Norton & Co...	"	Sugar Evaporator.
1416	Fred. Decker.....	Delaware, O.....	Model of a Clover and Grass Seed Harvester.
1486	Empire Plow Co.....	Pittsburg, Pa.....	Plow and Cultivator (Exhibi- tion only).
1490	Spratt, Johnson & Co....	"	1 Garden Plow (Ex. only).
1753	Champion Machine Co...	Springfield, O.....	Combined Reaper and Mower.
1755	Moore & Garlinghouse...	"	Hay Rake and Loader Com- bined (Ex. only).
1767	S. W. Jones	Bluffton, Ind	Hand Cultivator.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We, the Judges of Class 1, Section 6, having examined articles in your catalogue, report as follows:

No. 16. *ÆTNA MANUFACTURING Co.* exhibit combined reaper and mower—a machine of good construction. The means of changing speeds by two pairs of bevel gears and pinions is commendable. *Honorable mention.*

No. 19. *A. J. OHMER* exhibits Ohmer's trimming lawn mower. We actually tested this machine, and found that the principle of construction is eminently applicable to trimming around trees, garden seats, ornaments, etc. We therefore recommend its use in smaller gardens, such as adjoin city dwellings.

No. 25. *MANSFIELD MACHINE WORKS* exhibit Mansfield mower. The gearing is compactly placed in center of machine, and partially protected by cover above and shield underneath. The movement of clutch is accomplished without the use of springs, and is simple and positive. The forward box in pitman provides for taking up lost motion. It is singularly free from the objection of a great many bolts and nuts. The nuts and bolt-heads are secured by keepers. We consider this a good, practical machine. *Honorable mention.*

No. 26. *MANSFIELD MACHINE WORKS*—combined reaper and mower. This machine is well calculated to meet the wants of the farmer. *Honorable mention.*

No. 39. *A. PRITZ & SONS* exhibit Dorsey's self-raking attachment. Brown's improvement provides for producing a uniform movement of rake and platform in unevenness of ground by swinging the attachment, with platform, altogether over pitman-shaft, which runs directly between center of wheels. We consider the device for revolving rake on different planes

ingenious, and the whole combination well calculated to do the work intended. *First degree of merit.*

No. 56. E. BALL & Co. exhibit one world mower. The workmanship of this machine is excellent. All the gears are cut, and the shafts, bolts, and other parts perfectly fitted. The gearing is completely inclosed in an iron case, forming the body of the machine. The ratchets are also inclosed in wheel-hubs. The attachments to bar are of the ball and socket variety. We recommend this machine for first-class workmanship. *Honorable mention.*

No. 96. CHAMPION MACHINE Co. exhibit No. 4 champion mower. This machine is constructed in a first-class manner. The bearings are all long and well fitted. The frame is of wrought iron. The main strain in cutting is taken by a cold rolled iron bar, running lateral with machine. The guards are systematically made of wrought iron under rolls and drops, and then case-hardened. By the latter process they combine strength with first-rate cutting qualities. *Second award.*

No. 125. LONG, BLACK & ALSTATTER, Hamilton, Ohio, exhibit one case reaping machine sickles, mower knives, sections, etc., in which is contained samples of knives and sickles used on almost every variety of reaper and mower made. The knife and sickle sections, as exhibited in the different stages of their manufacture, show that they are punched from the steel plate and hardened around the cutting edges only, leaving the center and part to be riveted to bar soft. They also show a uniformity of grinding, such as can be gained only by the use of special machinery. We recommend all these cutters as deserving the highest award.

They also exhibit a steel-but for reaping machine sickles or mower knives, which has all the requisites of strength, lightness, and durability; and it is punched from steel, and the eye is bent in position by a hammer or drop. The introduction of a steel thimble provides a long bearing for the connection pin to work in. When this thimble is worn it can easily be replaced.

They also exhibit "Augspurger's grain lifter," which appears

to be a simple device for raising "down grain" in the harvest field. It is attachable to the bar and pilots in front of the cutter. *Honorable mention.*

No. 126. LONG, BLACK & ALLSTATTER exhibit one mowing machine. The feature of this machine is the hanging of the cutter bar on a line with the centers of the wheels. It provides for a uniform motion of the wheels and cutter bar, and is valuable when passing over undulations of the ground. We consider this provision of some importance. *Honorable mention.*

No. 175. J. EARNSHAW exhibits one Buckeye reaper and mower. The distinctive features of this machine consist, first, in the method of changing speeds, by an external and internal spur-wheel driving-pinion; second, in the folding of the cutter-bar square over the foot-board. For transportation purposes this latter arrangement lessens the liability of accident, and makes the machine more compact and manageable for the road. This machine possesses a good many meritorious qualities, and we class it—*Third award of merit.*

No. 188. R. M. BISHOP & Co. exhibit one climax mower. This machine possesses a number of good points. *Honorable mention.*

No. 189. R. M. BISHOP & Co., one climax reaper. We recommend this machine for the rapidity with which changes of speed of sickle movement can be made. This in many cases, as a reaper, is very desirable. The machine is easily handled, and generally well designed, but its workmanship is defective, which detracts from its meritorious qualities otherwise. *Honorable mention.*

No. 190. R. M. BISHOP & Co., one climax reaper, with dropper. Same remarks apply to this entry as to No. 189.

No. 191. R. M. BISHOP & Co., combined reaper and mower. The same remarks apply in effect to this entry as to No. 189.

No. 202. J. EARNSHAW, one landscape lawn mower. Has

a revolving knife speeded up from cast iron roller, running behind. It is a good machine, but the draft is rather heavy. *Second award of merit.*

No. 217. J. WILDER & Co., one mowing machine—clipper. This machine excels both in design and workmanship. It is very easily handled, and one lever accomplishes every movement of the bar excepting the regulation of the dip, which has a distinct lever for that purpose. The draft is attached to a connection sliding underneath the tongue, and secured to a cross-bar of the body of the machine—an arrangement which lightens the load on the horses' necks, has a tendency to raise the machine, and also greatly facilitates the working of the lever for raising the bar over obstructions, etc. All cast parts liable to get broken are made malleable. The bar is of spring steel; the guards of solid steel, tempered at the point and where knives come in cutting contact. The wheels are three feet in diameter, and in one revolution produce fifty-six vibrations of the knife. *First award of merit.*

No. 218. J. WILDER & Co., one hand lawn mower. We gave this machine an actual test, and found it very efficient and rapid in its cutting qualities; and it has the additional advantage of being an easy draft. *First degree of merit.*

No. 219. J. WILDER & Co., one horse lawn mower. Apparently a good machine. *Honorable mention.*

No. 1753. CHAMPION MACHINE Co., one combined reaper and mower. Is decidedly a good machine. There is every evidence that a long experience in the manufacture of such implements has dictated its construction. The character of workmanship is such as is described in remarks on entry No. 95. *First award of merit.*

No. 1434. W. H. PAYNE, one grain binder. It is designed to be attached to the reaper, and an endless apron carries the grain into it; it then presses the bundle, whether large or small, with the same degree of tightness, and binds securely with iron wire. It is automatic in all respects, and singularly

ingenious as a farm implement, and it is deserving of the attention of the agricultural community. *Honorable mention.*

ALEX. GORDON,
W. R. DUNLAP,
GEORGE JOHNSON.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We, the undersigned Committee on Agricultural Implements and Machinery, beg leave to make the following report:

Sulky Hay Rakes.—No. 1426 we think combines more good qualities than any other, and would give it the preference over all others, and give it the *first award*; and to No. 127, the *second award*.

Drills.—No. 102. This drill, we think, has advantages over all others, *first award*. No. 216, the *second award*.

American Wine and Cider Mills.—No. 58. As this combines more good qualities than any other, we award it the *first premium*. No. 178, *second premium*.

Straw Cutters.—No. 1422. *Award the first premium*. No. 221, the *second premium*.

Stump Puller and Rock Lifter.—No. 210. Your Committee thinks this combines more good qualities than any machinery of the kind that ever came under their observation. Recommend it to your favorable notice.

Threshing Machine, No. 196, of OWENS, LANE, DYER & Co., is noted all over the country for its good qualities. Are pleased to say is worthy of the *highest commendation*, though it had no competition in your Exposition.

Grain Separator.—No. 1480. We would call your attention to this machine of BLYMYER, DAY & Co. as a machine having

excellent qualities—none more so for its capacity—and recommend it to your favorable notice.

Grain Drill.—No. 2, two-horse grain drill, with fertilizing attachment. This is a very superior machine, and we give it the *first premium*.

Hay Rake and Loader.—No. 1755. Though having no competition, is certainly a *superior and useful machine for the farmer*.

Churns.—No. 204, has a vibrating dasher that we think will succeed well in collecting the butter. *Award it the first premium*. No. 222 has equal merits to the former. No. 1620, as a churn, combines many good qualities. Would recommend it to your notice.

Potato Digger.—No. 1417. From what we could see and learn of its performance, would award it merits.

Harrows.—No. 182 is superior to any other exhibited. *Award it the first premium; and to No. 1420 the second*.

Sugar Cane Mill.—No. 1482, exhibited by BLYMYER, NORTON & Co. We will give it the *first premium*.

Cultivators.—No. 84, exhibited by THOMAS COTTMAN, *the first premium*. No. 171, GEORGE C. MILLER & Co., *the second premium*.

Road Plows.—No. 1466, by THOMAS COTTMAN, *first premium*. No. 172, GEORGE C. MILLER & Co., *second premium*.

Plows for General Purposes.—No. 78, by THOMAS COTTMAN, *first premium*. No. 156, GEORGE C. MILLER & Co., *second premium*.

Sod Plows.—No. 77, THOMAS COTTMAN, *first premium*. No. 155, GEORGE C. MILLER & Co., *second premium*.

Corn Plows.—No. 148, GEORGE C. MILLER & Co., *the first award*. No. 80, THOMAS COTTMAN, *the second premium*.

Stubble Plows.—No. 150, GEORGE C. MILLER & Co., *first premium*. No. 79, THOMAS COTTMAN, *the second premium*.

Hillside Plows.—No. 82, by THOMAS COTTMAN, *first premium*. No. 167, GEORGE C. MILLER & Co., *the second premium*.

Double Shovel Plows.—No. 83, by THOMAS COTTMAN, *first premium*. No. 169, GEORGE C. MILLER & Co., *second premium*.

Single Shovel Plows.—No. 170, GEORGE C. MILLER & Co., *first premium*. No. 80, THOMAS COTTMAN, *second premium*.

Sub-soil Plow.—No. 81, THOMAS COTTMAN. We would recommend it to your favorable notice. No competition.

Double Sub-soil Plow (Michigan).—No. 321. Elegant, but no competition.

Hay Fork.—No. 1427, *first premium*.

Horse Cultivators.—No. 1759, *first premium*. No. 1447, *second award*.

Corn Shellers.—No. 143, *first award*. No. 176, *second award*.

Power Corn Sheller.—No. 201. Recommended to your favorable notice.

Hand Cultivator.—No. 265. Worthy of a premium.

Plantation cane mill, exhibited by the manufacturers, BLYMYER, NORTON & Co., Cincinnati, Ohio. This is a standard sugar cane mill of medium size, the rolls being twenty-six inches long and twenty inches in diameter, the main roll being heavily flanged. Whole weight of mill and connecting gearing, about eight tons. This machine is constructed in the most substantial manner, and presents a neat and tasteful appearance. It embodies all the latest improvements in sugar cane mills. The shafts are unusually heavy, and all the journals are supported in adjustable brass boxes. The "dumb returner," or guide plate, instead of being fixed or stationary, is pivoted, and its edge held in contact with the feed roll by means of an adjustable spring. The mill is exhibited in motion, and its movements are extremely smooth and uniform. Blymyer, Norton & Co. are entitled to a large amount of credit, not only for the qualities of the work on this mill, but for transporting and putting up so heavy a piece of machinery for exhibition. The number of this machine is 1481.

We would now call your attention to our report on the steam plow :

Your Committee gave an entire day in the examination and trial of the "Steam Plow," and in our opinion the agricultural interests of the country will be promoted by a full statement of the trial and conclusions to which we have arrived.

Before the trial it was plainly seen that the ground, on account of lack of moisture and the presence of boulder stones, was very unsuitable for a successful trial, which was commenced by lowering the cutters eight inches into the ground and plowing a strip ten feet wide, which was successfully performed, with a full head of steam, for several rods; when, coming in contact with stones and "hard pan," the breaking or bending of several of the cutters and the laboring of the engine proved the trial test to be beyond the capacity of the plow.

We then required the width of cut to be reduced to six feet and depth to four and five inches, believing this to be equal to ten feet wide and eight inches deep in any reasonable ground and in suitable order for plowing, and the machine worked satisfactorily and successfully to the end of the trial, although at one time it cut through a graveled road and threw up stones of three and four inches diameter without apparent damage to the cutters.

Its usual speed would cut six feet wide at the rate of one acre and $\frac{29}{100}$ acre per hour, and ten feet wide at the rate of two acres and $\frac{15}{100}$ acres per hour. It does not turn the sub-soil to the top, but it mixes and pulverizes not only the top but the whole depth of cut from top to bottom completely ready for the drill, which was part of the time attached, and which sowed the seed perfectly by the power of the plow by once passing over the ground. After which followed Mr. John Schenck with his corn planter, which planted three rows at a time, and left the ground with more seed than will be likely to germinate this fall, but was very properly planted.

The ground is as completely pulverized with this plow by

one plowing as could be done by two or three plowings with the common plow.

All the power in excess of that necessary to propel the machine is applied directly by cog gearing to operate the cutters, which are inclined so as to cut with much less power than they could possibly do if they were placed in a vertical position.

Whether the whole combination is such as to perform the greatest amount of labor with the least possible power, or whether some of the weight may not be dispensed with without diminishing the effective capacity of the machine, we will not venture an opinion, but it performed all that could be expected from it when exhibited, in motion, at the Exposition.

It was completely under the control of the steersman, could be turned at will, and the whole machine, when on trial, presented a triumph of inventive skill, and in our judgment it is a success; and we trust that the time is not far distant when, instead of scratching over the surface of our land, steam implements, adapted in capacity to both large and small farms, will enable us to cultivate the soil to a much greater depth than at present practiced, that we may reap a corresponding increase in our productions.

Thus ends our duty as Committee, and we would only add that we recommend Messrs. COFFIN & STANDISH, the inventors, to the best wishes of a generous public.

Respectfully,

L. FOWLER,
C. W. FRIEND,
JOHN STEPTOE.

AWARDS.

Hoosier Drill Co., Two-Horse Grain Drill with Fertilizing Attachment.....	<i>Large Silver Medal.</i>
Ætna Manufacturing Co., Combined Mower and Reaper.....	<i>Diploma.</i>
A. J. Ohmer, Trimming Lawn Mower.....	<i>Diploma.</i>
Mansfield Machine Works, Mansfield Mower.....	<i>Diploma.</i>
Mansfield Machine Works, Mansfield Combined Reaper and Mower....	<i>Diploma.</i>
A. Pritz & Sons, Self-Raker and Reaper Combined.....	<i>Large Silver Medal.</i>

E. Ball & Co., World Mower.....	<i>Diploma.</i>
Samuel Males, American Cider and Wine Mills.....	<i>Diploma.</i>
Thomas Cottman, Plows.....	<i>Large Silver Medal.</i>
Thomas Cottman, Cultivator.....	<i>Diploma.</i>
Champion Machine Co., Single Mower.....	<i>Small Silver Medal.</i>
Ferrell, Ludlow & Rogers, Superior Grain Drill and Grass Seeder Combined.....	<i>Small Silver Medal.</i>
Long, Black & Allstatter, Reaping Machines, Sickles, Mow- er Knives, etc.....	<i>Large Silver Medal.</i>
Long, Black & Allstatter, Mowing Machine.....	<i>Diploma.</i>
James L. Haven & Co., Hand Corn Shellers.....	<i>Diploma.</i>
G. C. Miller & Co., Plows.....	<i>Large Silver Medal.</i>
J. Earnshaw, Rotating Harrow.....	<i>Diploma.</i>
R. M. Bishop & Co., Display of Mowers and Reapers.....	<i>Diploma.</i>
Owens, Lane, Dyer & Co., Threshing Machine.....	<i>Large Silver Medal.</i>
J. Earnshaw, Display of Agricultural Implements.....	<i>Diploma.</i>
Hays & Church, Pioneer Stump Puller and Rock Lifter.....	<i>Diploma.</i>
J. Wilder & Co., Wheat Drill.....	<i>Diploma.</i>
Clipper Reaper and Mower Co., Mowing Machine.....	<i>Large Silver Medal.</i>
Graham, Emlen & Passmore, Philadelphia Lawn Mower.....	<i>Diploma.</i>
J. Wilder & Co., Display of Agricultural Implements.....	<i>Diploma.</i>
Lewis Duvall, Hand Cultivator.....	<i>Diploma.</i>
Coffin & Standish, Steam Plow.....	<i>Large Silver Medal.</i>
John. W. Corwin, Potato Digger.....	<i>Diploma.</i>
C. C. Winchell & Co., Eagle Straw Cutters.....	<i>Diploma.</i>
J. Wilder & Co., Sulky Hay Rake.....	<i>Diploma.</i>
William H. Payne, Grain Binder.....	<i>Large Silver Medal.</i>
Blymyer, Day & Co., Endless Apron Horse Power.....	<i>Diploma.</i>
Blymyer, Day & Co., Farm Threshing Machine.....	<i>Large Silver Medal.</i>
Blymyer, Norton & Co., Cane Mills.....	<i>Large Silver Medal.</i>
Blymyer, Norton & Co., Sugar Evaporator.....	<i>Diploma.</i>
Champion Machine Co., Combined Reaper and Mower.....	<i>Gold Medal.</i>
Moore & Garlinghouse, Hay Rake and Loader Combined.....	<i>Diploma.</i>
S. W. Jones, Hand Cultivator.....	<i>Diploma.</i>

CLASS 1.—MACHINERY.

Section 7. Sewing and Knitting Machines.

JUDGES:

PLATT EVENS, JR.

ADOLPH WITT.

S. CUTLER.

No.	Exhibitor.	Residence.	Articles Exhibited.
133	American Button-Hole Overseaming and Sewing Machine Co.....	Cincinnati, O.....	American Button-Hole Overseaming and Sewing Machine.
134	American Button-Hole Overseaming and Sewing Machine Co.....	"	Combined Button-Hole and Sewing Machine.
231	W. M. Shaw.....	"	Keystone Sewing Machines.
232	W. M. Shaw	"	Hinkley Knitting Machines.
247	James Skardon & Sons..	"	Weed Sewing Machines.
279	Stoll, Barrows & Co.....	"	Finkle & Lyon's Sewing Machines.
280	W. B. Houston	"	Leslie's Magic Ruffler.
286	J. R. Ayers.....	"	Wilcox & Gibbs' Sewing Machines.
1338	Ætna Sewing Machine Co	"	Ætna Sewing Machines.
1344	Hulbert Bros. & Co.....	"	Lamb Knitting Machine.
1444	George Rafus.....	Philadelphia, Pa.....	Braid Machine.
1451	Child Bros.....	Dayton, O.....	Domestic Sewing Machines.
1488	James Skardon & Sons..	Cincinnati, O.....	Hall's Combined Attachment for Binding, Hemming, etc.
1489	James Skardon & Sons..	"	Weed Sewing Machine, Piping Attachment.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition :

GENTLEMEN :—The Judges of Class 1, Section 7, report seven different manufacturers of sewing and knitting machines. They report a great improvement in design, decoration, form, and mechanical construction, the acting or working parts fitting accurately, and made of the best material.

We have found no inferior machines—*each and every one* worthy of the patronage of the public. The work performed,

such as sewing, hemming, braiding, quilting, felling, gathering, cording, tucking, embroidering, knitting, etc., etc., upon each machine, was *uniformly good*.

Six different sewing machines on exhibition make the shuttle or lock stitch.

No. 286. The WILCOX & GIBBS sewing machine sews with a single thread from a common spool, without rewinding, makes the crotchet or chain stitch, the only machine of this kind upon exhibition. This machine has the greatest speed, the shortest needle—self-setting. The motion is continuous, constantly revolving to form the stitch. The needle sets central in the center of the needle bar, has a bar feed, glass tension; feed level, convenient, and in sight. The machine can be turned but one way, and started at any point. Mechanical construction very perfect, form graceful and elegant; adjustable in its working parts.

The *hemmer* elastic—attached to the bed or work-table of machine (not the pressure foot), requires no screws to adjust same—belongs exclusively to this machine. Has all the trimmings first mentioned in this report attached to the machine. Entered and claimed only for family use, not for heavy manufacturing or leather work.

The Committee do not understand that it is their province or duty to decide if this kind of stitch is as good or superior to the shuttle stitch; the public alone must decide this point. The single thread machine has but one thread to control, no unequal motions required in its construction, and less movements; hence it would be unjust to compare the two kinds of machines respecting simplicity of mechanism.

No. 247. The WEED sewing machine has spiral hub cam, round needle bar, bar feed, solid shuttle, steel tipped for pivots of bobbins, has a groove on the top of shuttle in place of outside spring, adjustable in all parts, durable, elegant in form. The movement of machine well balanced, running with little noise and friction; carefully made of the best materials. Has all the necessary trimmings used upon sewing machines. Also an attachment, and sole right for using an attachment for

making piping for dresses. Same is attached to the bed plate of machine, turns the piping inside out after same has been stitched; this is a very neat and useful novelty to sewing machines, and the work executed a curious puzzle.

No. 279. The FINKLE & LYON sewing machine. This machine has been greatly improved, has spiral hub cam, round needle bar, furnishes two kinds of feed—*the bar and wheel feed*—without extra charge. The shuttle rests upon a plate or basket that moves with same; hence the shuttle is not worn on the under side; the thread is also kept free from oil. The needle is self-setting, can be threaded without passing the upper spool thread through eyes or holes. Machines carefully made of good materials; well fitting parts; the frame neat and substantial; sews with little noise or friction.

No. 1338. The ÆTNA sewing machine has four different patterns on exhibition; one for harness makers, carriage trimmers, and boot makers, one tailoring machine, and two family machines. The needle bars are flat, adjustable, driven by a heart cam upon the end of rotary shaft, immediately over the needle. The machines are driven by round belt over corrugated pulley, from the rear top of machine; this is an excellent device to prevent the slipping of the belt. The machines are well made, run quietly, stitch from heaviest to the thinnest goods without changing tension. For heavy manufacturing they are recommended; as family sewing machines do good work.

No. 1451. The DOMESTIC sewing machine. Needle bar flat steel, adjustable; driven by heart cam on revolving shaft directly over the needle; has a depressed motion to the needle after the needle has entered the loop. The shuttle swings in a basket on the end of a long and firmly supported arm; the shuttle basket easily adjusted; free from friction or oil on shuttle or thread. Shuttle a tube with extra large bobbin for a family machine; the bobbin runs upon plain pivots without springs; an outer adjustable spring plate regulates the tension; holds firmly any slack thread from the bobbin. Has adjustable bar feed raised, by a bar bent at the point of action, upon a bevel, and moved in its forward motion by a long arm,

bringing the place for changing of the stitch, very convenient, on the rear top of the machine; has spring clamp tension. This machine has many good points—a step in advance of the general stereotype make of machines. Has all the trimmings used on machines; also a pleater, made adjustable by a cam movement; said pleater is also a braider, and sold only with this machine. These machines are well made, have *power*, and stitch with little noise.

A very perfect embroidering attachment was exhibited with this machine, invented by W. A. MACK, the inventor of the domestic sewing machine, and used solely upon this machine. Same is attached to the main arm of the machine; the motions are positive, performing very perfect and exact work, with sharp corners and angles. Uses two or more spools of Chenille silk, thread, or cord. The work of this attachment was very beautiful.

No. 231. The KEYSTONE sewing machine has spiral hub cam, with no abrupt angles; round needle bar; needle can be adjusted to and from the shuttle. Basket carrier for shuttle, hence free from oil or friction. Bar feed, with its adjustments, moving together; hence can be changed when the machine is in motion. Tension, a spindle with spring clamp, to prevent slack thread. This machine has an elevated platform of polished metal for work-table. The stands of this machine are glued up from five pieces of wood, to prevent springing. This machine is elegantly made, every movement or part polished, and accurately fitted together; has many good and valuable points. Has also all the trimmings used upon sewing machines. They work with little noise, stitch rapidly with little friction.

No. 133. The AMERICAN button-hole and overseaming sewing machine has a round needle-bar, same working through a spiral shell or case—when connected together to be used for plain sewing, and when cast off used for working button-holes and making a new elastic stitch, known as overseaming. This machine has a basket shuttle carrier, hence free from friction or oil; swings upon a vibrating arm, same moved

by a pitman from a groove in hub upon the main spindle. The shuttle in this machine is new in form and construction. A plain steel spool revolves upon a center-pin, holds about the same quantity of thread as other family sewing machines, draws smoothly from same, and is easily threaded. The bobbin is held in its place by a flat spring. The tension is obtained by turning a slotted pin in the shuttle-frame; has a spiral hub cam; bar feed; a neat and convenient button tension. The needle is set central. The needle-bar has three slots in its lower end, and is compressed upon the needle by a taper nut. The "take up" positive link motion, only yielding in its lower motion. Adjustable bar feed. When used as a button-hole or overseaming stitch, the circular needle-plate is changed to one that has a projecting guard upon it; the shuttle attachment is dropped from its place, and the under needle-arm placed in position. Two spools are required to work the button-hole and overseaming stitch, and a third spool of heavy thread is used to "*bar*" the button-hole. This machine has all the ordinary trimmings, sews rapidly with little noise, carefully and properly made of the best materials. Attached to this machine was shown a little machine for making braid from two or more spools of silk or cord. This machine, as a sewing machine making the shuttle or lock stitch, has many good points, and is equal to the best on exhibition in point of novelty, workmanship, and good sewing. Independent of this, the machine works a good button-hole, and makes the overseaming stitch for elastic sewing and embroidering.

No. 232. The HINKLEY knitting machine. No movements on the under side of machine; the rack or comb is moved by a triple screw that meshes in the teeth of rack; the change of movement is caused by a section of the screw changing from a left to a right-hand screw, by striking adjustable indicators; the rack is graduated as a rule to determine the width of the work. Uses only one needle and one looper; has automatic stitch indicator, for counting the stitches; furnishes two combs—one fine, the other wide teeth. This machine is simple in construction and well made; strong in all its

parts—adapted for family use, and costs only thirty dollars. Can be driven by hand or treadle.

No. 1344. The LAMB knitting machine has two parallel rows of needles, knitting by one revolution of the crank, if desired, one hundred and forty stitches, forming a tube—thus knitting the leg of a stocking, and completing same without a seam. This machine will make one hundred stitches per second. A number nine stocking was completed, with the exception of closing together the heel, in *five minutes and forty seconds*. The needle is self-knitting, has hooked eye, with pivoted tongue upon same; belongs exclusively to this machine. The wear is distributed through all the needles in use. The machines are well made; claim to be the only machine that will knit both sides alike in rib and double webs. The machines are very rapid, used extensively for wholesale manufacturing, also for family use. The machines make a great variety of plain and fancy stitches; many beautiful samples of work were shown upon exhibition.

No. 280. LESLIE'S magic ruffler. This ruffler can be adjusted to all kinds of sewing machines; was working during the exhibition upon ten different kinds, performing equally satisfactorily upon all. The work done by this ruffler does not vary in fullness after ruffling many yards of goods, requires no adjustment, and works well upon all machines.

No. 1444. Machine for making braid. Can be attached to any sewing machine stand. The braid is made from two or more spools of silk, thread, or cord of different colors. The braid is very firmly and neatly platted, making a convenient appendage to any sewing machine, as any color of braid can be made immediately to match any color or pattern of garment.

No. 1488. HALL'S combined attachment for braiding, hemming, tucking, ruffling, and basting. This attachment makes five different kinds of work, can be used upon any sewing machine; was shown and used upon the Weed sewing machine. Is a neat and convenient device, and works well.

No. 1489. Attachment for making piping. Used upon the Weed sewing machine. This little device saves silk, or other

material used, and makes a very convenient and useful fixture to any sewing machine.

RECAPITULATION.

The Committee have expended nearly six days in privately investigating and hearing the explanations of the different exhibitors in this class. A full and complete description and analysis of each machine would occupy many pages of reading matter. A condensed description of each machine is hereby submitted; also the following report. Six machines make the shuttle stitch; one the single thread or chain stitch. As before stated, it is not understood that it is the duty of the Judges to decide which is the best kind of stitch to be used for family or manufactory sewing. Hence this machine (the Wilcox & Gibbs) occupies a distinct class by itself. Those using a shuttle constitute one class; the single thread machine the other class.

The Judges do hereby decide that the sewing machine that exhibits the greatest novelty, advancement, and improvement, does the greatest variety of useful work, equal in construction, workmanship, and design to any and all others on exhibition, is the American button-hole and overseaming sewing machine.

The next machine in point of excellence is the Keystone sewing machine.

The next: Domestic sewing machine.

The next: Finkle & Lyon sewing machine.

The next: Weed sewing machine.

The *Ætna* sewing machine, large size, is best adapted for heavy manufacturing.

The Wilcox & Gibbs sewing machine is the best machine of its class for family sewing known to the Committee.

The Lamb knitting machine, for speed and variety of work, is the best.

The next: The Hinkley knitting machine.

PLATT EVENS, JR.,
ADOLPH WITT,
SPAULDING CUTLER.

AWARDS.

American Button-hole, Overseaming and Sewing Machine Co., American Button-hole, Overseaming and Sewing Machine.....	Gold Medal.
W. M. Shaw, Keystone Sewing Machine.....	Large Silver Medal.
W. M. Shaw, Hinkley Knitting Machine.....	Diploma.
Stoll, Barrows & Co., Finkle & Lyon's Sewing Machines.....	Diploma.
J. R. Ayers, Wilcox & Gibbs Sewing Machines for manufacturing.....	Diploma.
Ætna Sewing Machine Co., Ætna Sewing Machine for Manufacturing.....	Large Silver Medal.
Hulbert Bros. & Co., Lamb Knitting Machine.....	Small Silver Medal.
Child Bros., Domestic Sewing Machine.....	Small Silver Medal.

CLASS 1.—MACHINERY.

Sec. 8. Hoisting Machines, Grist Mill and Grain-Clearing Machinery.

JUDGES:

A. ERKENBRECHER. JACOB ANCHUTZ. T. FAGIN.

No.	Exhibitor.	Residence.	Articles Exhibited.
38	A. Pritz & Sons.....	Dayton, O.	Jones' Smut Machine and Grain Separator.
74	James Bradford & Co.....	Cincinnati, O.....	Portable Corn Mill.
75	James Bradford & Co.....	"	Portable Flouring Mill.
76	James Bradford & Co.....	"	Portable Bolting Chest.
88	Diamond Mill Manufacturing Co.....	"	Iron Grist Mills.
89	Diamond Mill Manufacturing Co.....	"	Cotton Seed Huller and Separator.
132	Isaac Straub & Co.....	"	Queen of the South Grist Mill.
273	Vandegrift & Potter.....	Covington, Ky.....	Combined Smutter, Separator, and Grain Grader.
274	Vandegrift & Potter.....	"	Separator and Grain Grader.
275	Vandegrift & Potter.....	"	Merchant Mill Stone Feeder and Grain Separator.
276	Vandegrift & Potter.....	"	Custom Mill Stone Feeder and Grain Separator.
277	Vandegrift & Potter.....	"	Set of Self-Tramming, Driving and Balance Irons.
288	Miami Machine Works...	Cincinnati, O.....	Bran Duster.

CLASS 1, MACHINERY—SECTION 8, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
298	Miami Machine Works...	Cincinnati, O.....	Grain Scourer.
1326	H. P. Straub.....	"	Grist Mills and Mill Pick.
1385	Fred. Wolf.....	"	Flour Packing Machine.
1404	W. Gardner.....	Greene Co., Ky.....	Working Model of Thresher, Separator, and Cleaner.
1418	Alexander Fries.....	Cincinnati, O.....	Model of Hoisting Machine.
1495	John Cooper & Co.....	Mt. Vernon, O.....	Grist Mill.
1496	Lawrence Roth.	Cincinnati, O.....	Mill Picks.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We beg leave to report that we have performed the duties assigned us, in Class 1, Section 8:

First—Nos. 74, 75, and 76.—We find, upon careful examination and observation of the work performed by the various flouring and corn mills, that those of Messrs. JAS. BRADFORD & Co. are entitled to be classed as first upon the list in merit, for several reasons, viz.: The very substantial and yet simple construction of the mill, as well as the bolting chest attached thereto, the perfection of the work done by this mill within so small a space, and so small an amount of machinery, is worthy of all praise.

Second—No. 1495.—In merit we mention the mill and bolting chest of Messrs. JOHN COOPER & Co. The mill is of very ingenious and substantial construction. The flour made by this mill is of excellent quality, and a good yield was made by this mill. In fact, we consider its grinding superior and fully equal to many mills of greater pretensions.

Third—No. 132.—In merit we mention the grist mill and bolt of Messrs. ISAAC STRAUB & Co. The mill is of simple, substantial construction, compactly built, and, with its bolting chest closely attached, it is well calculated to do custom grinding. The manner in which the corn and wheat stones are geared together is simple, and very convenient for operating one or both of them together.

The corn mill of Mr. J. B. BARNES, of Covington, Kentucky, we did not see operating; but there was very excellent workmanship displayed in its construction and style, and we doubt not that it is capable of doing good work.

Nos. 289 and 1326. The grist mills of Mr. H. P. STRAUB are, we consider, a valuable mill for farm and plantation use, and for general custom work, owing to the simplicity of their construction and the slight degree of skill necessary to operate them.

Nos. 88 and 89. The mills of the DIAMOND MILL MANUFACTURING COMPANY are of great utility, from the fact that they can be operated by hand; the emigrant can take the mill along in the wagon, and grind his meal just as it is required for use. The cotton seed huller and separator of the DIAMOND MILL MANUFACTURING COMPANY is a very valuable invention, utilizing an article heretofore considered useless, from which an oil of very fine quality is manufactured, thereby greatly adding to the value of the productions of our country.

First—Nos. 273 to 277.—As to grain cleaning machinery, we consider Messrs. VANDEGRIFT & POTTER's smutter, separator, and grain grader combined, as standing A, No. 1 upon the list of machines on exhibition; it is of durable and substantial construction, it scours the grain exceedingly well breaking but very little of it, and its separations are excellent.

Second—No. 38.—The Jones' smut machine, exhibited by Messrs. A. PRITZ & SONS, we mention as second in point of merit as a grain cleaner. It is very compactly built and is a display of finished workmanship, and cleans the grain very well indeed, breaking but little of it.

Third—No. 298.—The grain scourer of the MIAMI MACHINE WORKS is a most excellent and thorough scourer and cleaner of the grain, and where power is of little or no object, is a desirable machine, being of large capacity.

No. 288. The MIAMI MACHINE WORKS' bran duster is a very superior machine, and well worth the attention of all millers who desire to make close yields.

No. 274. Messrs. VANDEGRIFT & POTTER's separator and grain grader is a valuable machine, specially adapted to the use of grain elevators and warehouses; also, their millstone feeders, both merchant and custom, are a very useful invention, and remove a great deal of impurity from the grain which escapes other cleaners.

No. 277. Messrs. VANDEGRIFT & POTTER's self-tramming, driving, and balance irons for millstones we think one of the greatest improvements of the age; it is self-adjusting, and obviates a great difficulty heretofore experienced by millers. It has only to be seen by a miller to be appreciated.

No. 1385. The flour packing machine, exhibited by Mr. FRED. WOLFF, is a strictly first class machine, which fact can be fully attested by hundreds of millers who have them in use.

No. 1404. Mr. W. GARDNER's working model of a thresher separator, and cleaner is said to be an excellent machine; the most important feature being that it requires less power to propel than any machine of its kind.

No. 1496. Mr. LAWRENCE ROTH's mill picks are of finished workmanship, and we doubt not the temper of them is even and true; in fact, we can personally vouch for his workmanship and skill in this his speciality—tempering mill picks.

No. 1418. The model of "hoisting machine," exhibited by Mr. ALEX. FRIES, is specially worthy of notice, from the fact that the safety basket attached to it, in case of accident to the machine, will save many valuable lives where such machines are used.

The above is herewith respectfully submitted,

ANDREW ERKENBRECHER,
JACOB ANSHUTZ,
THEODORE FAGIN.

AWARDS.

A. Pritz & Sons, Jones' Smut Machine and Grain Separator.....	Diploma.
James Bradford & Co., Portable Corn Mill, Flouring Mill, and Bolting Chest.....	Large Silver Medal.
Diamond Mill Manufacturing Co., Iron Grist Mill.....	Diploma.
Diamond Mill Manufacturing Co., Cotton Seed Huller and Separator...	Diploma.
Isaac Straub & Co., Queen of the South Grist Mill.....	Diploma.
Vandegrift & Potter, Combined Smutter, Separator, and Grain Grader.....	Large Silver Medal.
Vandegrift & Potter, Separator and Grain Grader.....	Diploma.
Vandegrift & Potter, Combined Millstone Feeder and Grain Separator.	Diploma.
Vandegrift & Potter, Balance Irons for Millstones.....	Diploma.
Miami Machine Works, Grain Scourer.....	Diploma.
Frederick Wolf, Flour Packing Machine.....	Diploma.
Alexander Fries, Model of Hoisting Machine.....	Diploma.
Lawrence Roth, Mill Picks.....	Diploma.
John Cooper & Co., Grist Mill.....	Small Silver Medal.

CLASS 1.—MACHINERY.

Sec. 9. Miscellaneous Machinery.

JUDGES:

A. G. MOORE.

GEO. GRAY, JR.

J. R. MAXWELL.

No.	Exhibitor.	Residence.	Articles Exhibited.
12	D. Smallwood.....	Middletown, O.....	Double Revolving Washing Machine.
14	Silver & Deming.....	Salem, O.....	Patent Meat Chopping Machine.
21	Fish & Black	Madisonville, O.....	Camp's Magic Washing Machines.
23	Louis Harmyer.....	Cincinnati, O.....	Tobacco Packing Machine.
24	Louis Harmyer.....	"	Tobacco Flavoring Machine.
31	Buckeye Washing Machine Co.....	Wilmington, O.....	Buckeye Washing Machine.
32	F. L. King.....	Boston, Mass.....	Model of Machine for Dressing Stone.
33	Northampton Pegging Machine Co.....	Northampton, Mass.	Hand Pegging Machine.
34	Northampton Pegging Machine Co.....	" "	Skiving Machine.

CLASS 1, MACHINERY—SECTION 9, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
35	H. Rulison.....	Cincinnati, O.....	Short's Patent Shaft Coupling and Hanger.
41	A. Pritz & Sons.....	Dayton, O.	Automatic Car Coupling.
55	Reinshagen & Buckman.	Cincinnati, O.....	Improved Pulleys.
59	J. G. McCormick.....	Louisville, Ky.....	Universal Machine Pulley.
60	Thomas & Robinson.....	Cincinnati, O.....	Screw Press.
61	Thomas & Robinson.....	"	Drop Press.
64	Hoglen & Pease.....	Dayton, O.....	Pease's Tobacco Cutter.
65	Hoglen & Pease.....	"	Drum Elevator and Receiver.
90	Wm. McKinney & Co.....	Cincinnati, O.....	Shaft Coupling.
92	Geo. Decker.....	"	Lamb's Patent Washing Machine and Wringer.
93	Louis Fenstermacher.....	"	Machine for Manufacturing Binding.
97	Reckless & Lawrence.....	Philadelphia, Pa.. ..	National Washing Machine.
117	Post & Co.....	Cincinnati, O.....	Switch Stand.
118	Post & Co.....	"	Passenger and Freight Car Springs.
120	A. C. Sine.....	"	Consecutive Numbering Machine.
121	Northampton Emery Wheel Co.....	"	Emery Wheels, Oil Stones, and Grinding Machines.
122	Gest & Atkinson.....	"	Cast Steel Railroad Car Springs.
123	Thos. Bradford.....	"	Prairie State Washing Machine.
136	L. E. Fay.....	"	Fay's Patent Tin Roofing Machine.
137	Louis Wolffley.....	"	Liquid Fuel Machine.
140	Jas. L. Haven & Co.....	"	Sturtevant's Fan Pressure Blower.
184	J. G. Rockhill.....	Lebanon, O.....	E. Pluribus Unum Washing Machine.
197	Sellew & Co.....	Cincinnati, O.....	Set of Tinnern's Machines and Tools.
198	Stanley Level & Rule Co.	New Britain, Conn..	Endless Rubber Polishing Belt.
199	W. R. Patterson.....	Cincinnati, O.....	Universal Fire Extinguishers.
207	J. Earnshaw.....	"	Dog Power.
208	J. Earnshaw.....	"	Lard Presses. [ernor.
209	J. S. Herrick.....	"	Leffingwell's Gas Saving Governor.
211	Charles A. Bauer.....	"	1 Ellipsograph.
212	Reckless & Lawrence....	Philadelphia, Pa.....	Power Washing Machine.
240	American Twist Drill Co.	East Blackstone, Ms.	Patent Emery Wheels Grinding Machines.
241	Union Stone Co.....	Boston, Mass.....	Union Emery Wheels.
245	Charles Beuttel.....	Cincinnati, O.....	Stamping Machine.
262	Lansburgh & Co.....	"	Apparatus for Rectifying Alcoholic Liquors.
263	Kane & Blakemore.....	"	Foundry Facings.
268	T. W. Myers.....	Sharonville, O.....	Beveled Tool Rest.
281	Henry M. Ritter.....	Cincinnati, O.....	Engineer's Level.
1320	S. Longley.....	"	Street Cleaning Machine.

CLASS 1, MACHINERY—SECTION 9, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1324	P. Echert.....	Cincinnati, O.....	Large Ice Cream Freezer.
1329	D. W. Whipple.....	"	Tire Upsetters.
1330	D. W. Whipple.....	"	Tire Bender.
1334	Cordesman & Dierker....	"	Bark Mill.
1335	Perkins & Co.....	"	Patent Creasing Machines.
1336	Perkins & Co.....	"	Saddlers' Stitching Horses.
1337	Perkins & Co.....	"	Hair Beaters.
1345	J. C. Reed.....	"	Model of Bolt and Rivet Machine.
1346	J. C. Reed.....	"	Machine for Propelling Canal Boats.
1366	H. A. Glassford & Co.....	"	Patent Lubricators.
1383	C. G. Forshey.....	Galveston, Texas....	Gilman's Liquor Ager and Purifier.
1764	C. G. Forshey.....	"	Sound Dampener.
1484	Jeremiah Darling.....	Cincinnati, O.....	Apparatus to Prevent Steam Boiler Explosions.
1387	L. Steigert.....	"	Meat Chopping Machine.
1392	Nathan & Dreyfus.....	New York City.....	Lubricators.
1393	J. C. Davison	Chicago, Ill.....	Excelsior Fire Extinguishers.
1401	R. E. Kennedy.....	Cincinnati, O.....	Fire Proof Railroad Car Model.
1402	W. J. Taylor.....	Maysville, Ky.....	Combination Roller and Ice Skate.
1413	John E. Smith.....	Buffalo, N. Y.....	Steam Sausage Machine.
1424	Chas. C. Winchell & Co..	Cincinnati, O.....	Plug Tobacco Machine.
1435	B. F. Hughes.	Springfield, O.....	Adam Queen Washing Machine.
1437	Weeden & Tribe.....	Hillsdale, Mich.....	Patent Cloth Measuring Machine.
1359	H. A. Glassford & Co.....	Cincinnati, O.....	Patent Jack Screws.
1441	Wm. Leitch.....	"	Whetting Machine Model.
1443	J. Meehan.....	Covington, Ky.....	Oil Cup.
1445	E. Whitehead, Sen.....	Cincinnati, O.....	Patent Car Brake.
1448	C. & H. S. Hoeller.....	"	Elbow-Bending Machine.
1452	Green & Lewis.....	"	Horseshoe Machine.
1461	Lane & Bodley.....	"	Shaftings, Pulleys, Couplings, and Hangers.
1754	Frederick Wolf.....	"	Starch Packing Machine (Ex. only).
1756	Holland & Cody.....	New York City	Glass Lubricator for Oil.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Committee on Class 1, Section 9, respectfully submit the following report on the articles in our catalogue:

No. 240. AMERICAN TWIST DRILL Co., exhibit a patent

emery grinding machine possessing some merit, but as it is only one of many very similar machines composed of two bearings and a spindle, we shall place it among articles of the second class.

No. 241. THE UNION STONE Co. exhibit samples of emery wheels and grinding stones, which are composed of material not affected by water, and that does not glaze in doing ordinary work, and does not produce a disagreeable smell when doing hard work. We consider them the best article of the kind on exhibition.

No. 121. The NORTHAMPTON EMERY WHEEL Co. exhibit emery wheels, oil stones, and grinding machines. The grinding machines are very well adapted to the work for which they are intended, and the wheels work well on such work as they are especially constructed for, but will glaze on some kinds of work; we shall therefore rate them in the second class.

No. 64. HOGLEN & PEASE, drum elevator and receiver.

No. 65. HOGLEN & PEASE, Pease tobacco cutter; a well constructed machine for the purpose, and entitled to *first merit*.

No. 90. WM. MCKINNEY & Co., shaft coupling. No merit.

No. 93. LEWIS FENTSTERMACHER, machine for manufacturing binding. *First degree of merit*.

No. 120. A. C. SINE, consecutive numbering machine. *Second degree of merit*.

No. 136. L. E. FAY, Fay's patent tin roofing machine. *First degree of merit*.

No. 140. JAS. L. HAVEN & Co., fan pressure blower. *First degree of merit*.

No. 60. THOMAS & ROBINSON, screw press. *First degree of merit*.

No. 61. THOMAS & ROBINSON, drop press. *Second degree of merit*.

No. 1756. HOLLAND & CODY, glass lubricator for holding oil. A good article for stationary journals. *First degree of merit.*

No. 1443. J. MEHAN, oil cup for locomotives. A good article for vibrating journals. *First degree of merit.*

No. 1366. H. A. GLASSFORD & Co., patent lubricators. *Second degree of merit.*

No. 1392. NATHAN & DREYFUS, two cases of lubricators. *First award for best display and assortment; first award for best cylinder cup.*

No. 23. LEWIS HARMYER, tobacco packing machine. *First degree of merit.*

No. 32. F. L. KING, model machine for dressing stone. *Second degree of merit.*

No. 35. H. RULISON, Short's patent shaft coupling and hanger. *Second degree of merit.*

No. 41. A. PRITZ & SONS, automatic car coupling. *Second degree of merit.*

No. 55. REINSHAGEN & BUCKMAN, improved device for pulleys. A neat, convenient and practicable arrangement for securing pulleys to shafting. *Entitled to first degree of merit.*

No. 59. J. G. McCORMICK, universal machine pulley. A very convenient and useful substitute for the tight and loose pulley. *First degree of merit.*

No. 197. SELLEW & Co., tinman's tools. *First degree of merit.*

No. 198. STANLEY RULE AND LEVEL Co., endless rubber polishing belt. *First degree of merit.*

No. 1359. H. A. GLASSFORD & Co., patent jack screws. *First degree of merit.*

No. 1441. WM. LEITCH, patent whetting machine. *Second degree of merit.*

No. 1445. E. WHITEHEAD, JR., patent car brake. *Second degree of merit.*

No. 1461. LANE & BODLEY, shafting, pulleys, hangers, and couplings. *First degree of merit for general display.*

No. 24. LEWIS HARMYER, tobacco flavoring machine. *Honorable mention.*

No. 1393. J. C. DAVISON, excelsior fire extinguisher. *First degree of merit.*

No. 199. W. R. PATTERSON, twenty fire extinguishers. *First award for general display; second degree of merit.*

No. 207. J. EARNSHAW, dog power. *Honorable mention.*

No. 208. J. EARNSHAW, two lard presses. *First degree of merit.*

No. 209. J. S. HERRICK, Leffingwell's self-regulating gas saving governor. The Committee having tested the governor during part of the Fair believe it to be a good thing, and entitled to the *first degree of merit.*

No. 211. CHARLES BAUER, elipsograph; a useful instrument for perspective drawing. *First degree of merit.*

No. 1329. D. W. WHIPPLE, tire upsetter.

No. 1330. D. W. WHIPPLE, tire bender. *Both first degree of merit.*

No. 1334. CORDESMAN & DIERKER, bark mill. *Honorable mention.*

No. 1335. PERKINS & Co., patent creasing machine.

No. 1336. PERKINS & Co., saddlers' stitching horse.

No. 1337. PERKINS & Co., hair beaters. *All first degree of merit.*

No. 1345. J. C. REED, bolt and rivet machine model. *Second degree of merit.*

No. 1346. J. C. REED, machine for propelling boats on canals. *Honorable mention.*

No. 1383. C. G. FORSHEY, Gilman's liquor ager and purifier. *First degree of merit.*

No. 1384. JEREMIAH DARLING, apparatus for preventing steam boiler explosion in muddy water. *Honorable mention.*

No. 245. CHARLES BEUTTEL, stamping machine. *First degree of merit.*

No. 262. LANSBURGH & Co., apparatus for rectifying liquors. *First degree of merit.*

No. 263. KANE & BLAKEMORE, foundry facings. *First degree of merit.*

No. 268. F. W. MYERS, beveled tool rest. *Honorable mention.*

No. 281. HENRY M. RITTER, engineer's level. *Second degree of merit.*

No. 1320. S. LONGLEY, street cleaning machine. *Second degree of merit.*

No. 1324. THOMAS MILLS & Bro., ice cream freezer. *Second degree of merit.*

No. 14. SILVER & DEMING, Silver's patent meat chopper. This machine is entitled to the *first degree of merit*, all the working parts being below the chopping block, thus preventing all grease and dirt from mixing with the meat. It also has an intermittent feed motion, which other machines have not, thus preventing the knives from scraping on the block.

No. 1413. JNO. E. SMITH, steam sausage machine. *Second degree of merit.* A very complete machine, with steam engine attached, free from dirt and grease. Continuous feed.

No. 1387. L. STIGERT, meat chopping machine. A very effective and powerful machine, but not considered fit for the purpose on account of *filthiness*, machinery all being above the block.

No. 1401. R. E. KENNEDY, a model for fire-proof and safety railroad car. *Honorable mention.*

No. 1402. WM. G. TAYLOR, combination roller and ice skate. *Honorable mention.*

No. 1437. WEEDON & TRIBE, cloth measuring machine. *Honorable mention.*

No. 117. POST & CO., railroad switch stand. *First degree of merit.*

No. 118. POST & CO., passenger and freight car springs. *Second degree of merit.*

No. 122. GEST & ATKINSON, cast steel railway car springs. *First degree of merit.*

No. 1762. C. G. FORSHEY, sound damper. *Honorable mention.*

No. 33. The Committee believe the Northampton hand pegging machine to be one of the most meritorious articles in our class. The work is done by holding and guiding the machine with one hand, and turning the crank with the other, and requires only ordinary skill to handle it, and will probably do twice or three times as much work as the most expert operator can do by hand.

No. 34. The skiving machine appears to be a very valuable article, doing its work with great rapidity and unerring regularity, and is entitled to high reward as a labor-saving invention.

No. 1448. The elbow bending machine certainly stands first among the articles in our class, doing its work with great speed and regularity, producing work far superior to any thing heretofore made, both in strength and beauty of finish. We therefore call the attention of the General Committee to it as a proper subject to be considered in bestowing the highest premium.

There are several washing machines on our list, which we have examined with as much care as our time would permit, and would respectfully submit the following opinion on the

subject, with the view, if possible, of stimulating manufacturers and inventors to strive for something above the styles now offered in the market:

The Committee are of the opinion that no substantial improvement has been made in washing machines, taking the flimsy character of the materials used, and the very inferior workmanship displayed, an evidence that nothing in that line has yet been invented that sufficiently reduces the labor of washing to warrant manufacturers in putting them into the market made of durable material and good workmanship.

We therefore decline to award first merit to any machine exhibited to us, and therefore rate them as follows:

No. 12. D. SMALLWOOD, double revolving washing machine.
Second degree.

No. 21. FISH & BLACK, Camp's magic washing machine.
No merit.

No. 31. BUCKEYE WASHING MACHINE COMPANY, Buckeye washing machine. *No merit.*

No. 92. LAMB'S patent washing machine and wringer combined. *Second degree.*

No. 97. RECKLESS & LAWRENCE, national washing machine.

No. 212. RECKLESS & LAWRENCE, power washing machine.
Second degree. Good for heavy washing.

No. 123. THOS. BRADFORD, Prairie State washing machine.
Second degree. A very cheap machine.

No. 184. J. G. ROCKHILL, E Pluribus Unum washing machine. *Second degree.* Deserves notice on account of furnace attached, and having several compartments for rinsing.

No. 1492. A. SCHLINGINGMAN, climax washing machine.
Second degree.

No. 284. VAN NAME, washing machine and wringer combined. *Second degree.*

No. 1435. B. T. HUGHES, Adam Queen washing machine.
Second degree.

A. G. MOORE,
 G. A. GRAY, JR.
 JAS. R. MAXWELL.

SUPPLEMENTARY REPORT

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We are convinced, after a more thorough examination of the merits of the two fire extinguishers on exhibition, that Mr. PATTERSON'S machine possesses some merits not brought to the notice of the Committee, which, upon a more careful comparison with the Excelsior extinguisher, we think places them about upon an equal footing, and we therefore request the General Committee to change our former decision, and place them in the same degree.

JAS. R. MAXWELL,
 G. A. GRAY, JR.

AWARDS.

Silver & Deming, Patent Meat Chopping Machine.....	<i>Diploma.</i>
Louis Harmyer, Tobacco Packing Machine.....	<i>Diploma.</i>
Northampton Pegging Machine Co., Hand Pegging Machine.....	<i>Diploma.</i>
Northampton Pegging Machine Co., Skiving Machine.....	<i>Diploma.</i>
Reinshagen & Buckman, Improved Device Pulleys.....	<i>Diploma.</i>
J. G. McCormick, Universal Machine Pulley.....	<i>Diploma.</i>
Thomas & Robinson, Screw Press.....	<i>Diploma.</i>
Hoglen & Pease, Tobacco Cutter.....	<i>Large Silver Medal.</i>
Louis Fenstermacher, Machine for Manufacturing Binding.....	<i>Diploma.</i>
Post & Co., Switch Stand.....	<i>Diploma.</i>
A. C. Sine, Consecutive Numbering Machine.....	<i>Diploma.</i>
Northampton Emery Wheel Co., Emery Wheels, Oil Stones, and Grinding Machines.....	<i>Diploma.</i>
Gest & Atkinson, Cast Steel Railroad Car Springs.....	<i>Diploma.</i>
L. E. Fay, Fay's Patent Tin Roofing Machine.....	<i>Diploma.</i>
Jas. L. Haven & Co., Sturtevant's Fan Pressure Blower.....	<i>Diploma.</i>
Stanley Rule & Level Co., Endless Rubber Polishing Belt.....	<i>Diploma.</i>
W. R. Patterson, Fire Extinguisher.....	<i>Diploma.</i>
J. Earnshaw, Lard Presses.....	<i>Diploma.</i>
J. S. Herrick, Leffingwell's Gas Saving Governor.....	<i>Diploma.</i>

Chas. A. Bauer, Elipsograph.....	Diploma.
Union Stone Co., Union Emery Wheels.....	Diploma.
Chas. Beuttel, Stamping Machine.....	Diploma.
Lansburgh & Co., Apparatus for Rectifying Alcoholic Liquors.....	Diploma.
Kane & Blakemore, Foundry Facings.....	Diploma.
S. Longley, Street Cleaning Machine.....	Diploma.
D. W. Whipple, Tire Upsetters.....	Diploma.
Perkins & Co., Creasing Machines, Stitching Horses, and Hair Beaters..	Diploma.
C. G. Forshey, Gilman's Liquor Ager and Purifier.....	Diploma.
Nathan & Dreyfus, Lubricators.....	Diploma.
J. Meehan, Oil Cup.....	Diploma.
C. & H. S. Hoeller, Elbow Bending Machine.....	Large Silver Medal.
Holland & Cody, Glass Lubricators for Oil.....	Diploma.
H. A. Glassford & Co., Jack Screws.....	Diploma.
Excelsior Fire Extinguisher Co., Excelsior Fire Extinguisher.....	Diploma.
Sellew & Co., Display of Tinnerns' Tools and Machines.....	Diploma.

110 Marshall, Rochester & Co.	
109 Hattie, Zinner & Co.	
108 Rice & Co.	
107 Condeman & Dierker	
106 A. G. Worthmiller & Co.	
105 J. Reynolds	
104 Greenwood Stove Co.	
103 Hengert Hot Air Furnace	
102 John Grossman	
101 E. Evans & Co.	
100 Lewis, Gilder & Co.	
99 J. Van & Simonds	
98 J. Van & Simonds	
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CLASS 2.

Stoves, Ranges, and Furnaces.

JUDGES:

H. W. STEPHENSON.

JABEZ REYNOLDS.

WM. HUDDART.

No.	Exhibitor.	Residence.	Articles Exhibited.
382	Zerbe, Perine & Co.....	Cincinnati, O.....	Revolving Grate.
389	Zerbe, Perine & Co.....	"	Fire Grate.
395	John B. Herron & Co.....	Pittsburg, Pa.....	Soft Coal Heating Stove.
410	Mitchell, Stevenson & Co	"	Cooking Stove.
480	Harris, Zoiner & Co.....	Cincinnati, O.....	Stove Patterns. [nace.
532	Kice & Co.....	Louisville, Ky.....	Cooking and Heating Fur-
537	Cordesman & Dierker....	Cincinnati, O.....	Warm Air Furnace, Portable Ranges, and Table.
666	A. G. Werthmiller & Co.	"	Ranges and Furnaces.
667	J. Reynolds.....	Philadelphia, Pa.....	Wrought Iron Furnace.
693	Greenwood Stove Co.....	Cincinnati, O.....	Cooking and Heating Stove.
734	Bennett Hot Air Furnace Co.....	"	[Heaters. Furnaces and School-House
738	John Grossius.....	"	Hot Air Furnace and School Stoves.
762	C. B. Evans & Co.....	"	Parlor Stoves, Grates, etc.
772	Mears, Olhaber & Co.....	"	Stoves.
786	J. Van & Simonds.....	"	Family and Hotel Ranges and Steam Table.
787	J. Van & Simonds.....	"	Hotel Broiler and Laundry Stove. [Urns.
788	J. Van & Simonds.....	"	Carving Table, Tea and Coffee
789	J. Van & Simonds.....	"	Hot Air Furnace.
880	Fares, Miller & Young...	"	Portable Range.
881	Fares, Miller & Young...	"	Portable Furnaces.
895	Dierckes, Hofschulte & Co	"	Enameled Grates.
897	G. W. Ball & Co.....	"	Cooking and Parlor Stoves.
898	W. E. Childs.....	"	Cooking and Parlor Stoves.
900	Adolphus Lotze & Co.....	"	Warm Air School Stoves.
901	Adolphus Lotze & Co.....	"	Warm Air Furnaces, Cook- ing Range, and Ventilating Shaft.
918	C. S. Rankin & Co.....	"	Enameled Grates, Iron Rail- ing and Iron Work.
920	Chamberlain & Co.....	"	Parlor Cooking Stoves.
1265	Chamberlain & Co.....	"	Beauty Cooking Range.
1266	Chamberlain & Co.....	"	Beauty Base Burner.
1267	Chamberlain & Co.....	"	Oriental Base Burner.
1268	Chamberlain & Co.....	"	Oriental Base Burner Parlor Furnace.
1269	Chamberlain & Co.....	"	Omaha Cooking Stove.
1270	Chamberlain & Co.....	"	Emporia Wood Stove.
1273	Chamberlain & Co.....	"	Charter Emporia Wood Stove.

CLASS 2—STOVES, RANGES, AND FURNACES, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1274	Chamberlain & Co.....	Cincinnati, O.....	Triumph Cooking Stove.
1275	Chamberlain & Co.....	"	Magnet Heating Stove.
1276	Chamberlain & Co.....	"	Selma Sheet Iron Stove.
1277	Chamberlain & Co.....	"	Vernon Stove.
1278	Chamberlain & Co....	"	Ohio Box Stove.
1279	Chamberlain & Co.....	"	Cooking and Heating Stoves.
1280	Chamberlain & Co.....	"	Charter Emporia Cooking Stove.
970	N. Patterson & Co.....	"	Stoves and Ware.
1006	Wm. Resor & Co.....	"	Monitor Coal Stoves and Farham Wood Stoves.
1007	Wm. Resor & Co.....	"	Parlor and Open Front Cooking Stoves.
1008	Wm. Resor & Co.....	"	Cooking, Parlor, and Heating Stoves.
1064	Adams, Peckover & Co...	"	Cooking and Heating Stoves.
1140	Redway & Burton.....	"	Wood Cooking Stove.
1184	Redway & Burton.....	"	Early Breakfast Cooking Stove.
1185	Redway & Burton.....	"	Great Republic Cook Stove.
1186	Redway & Burton.....	"	Great Republic Extension Top Cook Stove.
1187	Redway & Burton.....	"	Cincinnati Cook Stove.
1188	Redway & Burton.....	"	Enameled Open Front Stoves.
1190	Redway & Burton.....	"	Plain Open Front Stoves for Coal. [Stoves.
1192	Redway & Burton.....	"	Chimney Corner Open Front
1194	Redway & Burton	"	Ladies' Friend Stove.
1195	Redway & Burton.....	"	Good Luck. [Stove.
1197	Redway & Burton.....	"	Improved Volcano Cannon
1200	Redway & Burton.....	"	Rainbow Parlor Stove.
1201	Redway & Burton.....	"	Tip-Top Stove.
1202	Redway & Burton.....	"	Parlor Sheet Iron Stove.
1229	Redway & Burton.....	"	Conquest Parlor Stoves.
1230	Redway & Burton.....	"	Little Giant Charcoal Furnace.
1208	McDonald & Murphy....	"	Adjustable Stove Shelf.
1217	W. C. Davis & Co.....	"	Patent Warming Oven and Cooking Stoves.
1218	W. C. Davis & Co.....	"	Patent Shelf Covers and Tea-Kettles.
1547	M. Greenwood & Co	"	Stove Pipe Cylinder and Ventilator.
1549	E. C. Chapman.....	Lacon, Ill.....	Stove Pipe Chimney Thimble and Ventilator.
1584	Mears, Olhaber & Co....	Cincinnati, O.....	Continental Cook Stove.
1585	Mears, Olhaber & Co....	"	Telegraph Cook Stove.
1586	Mears, Olhaber & Co....	"	Perfection Cook Stove.
1587	Mears, Olhaber & Co....	"	Winter Belle Heating Stove.
1588	Mears, Olhaber & Co....	"	Gas Burner Heating Stove.
1589	Mears, Olhaber & Co....	"	Ætna Heating Stove.
1590	Mears, Olhaber & Co....	"	Cheap Heating Stove.
1624	Fares, Miller & Young...	"	Broiler.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges on Class 2 respectfully report:

We have examined Class 2 with as much care as possible, considering the time at our command and the immense number of articles exhibited (about three hundred), and have found them all, with very few exceptions, to be emphatically *good*. The castings are smooth, the designs pleasing and even artistic, the plan of working such as to carry out the intentions of the makers, and whatever preference we have indicated by our awards at the end of the report, show but a slight excellence of one over another. Where all are good we find it difficult to decide.

We now proceed to give the leading features in the principal stoves, etc., of each exhibitor, in the order of their examination.

No. 410. MITCHELL, STEVENSON & Co., of Pittsburg, cook stove. Shaking and dumping grate bail on ash pan (patented), doors lined with tin, well fitted, air vent under bottom circulating around fire-place, and several other lesser features. The smoke flue, after descending down the back of the stove, passes through the center, returning on the sides—the reverse of the general arrangement in most stoves.

No. 897. G. W. BALL & Co.

No. 898. WM. CHILDS, Active cook stove. Opening of damper varied by a notched register, causing the draft to hug the boilers on top, or the top oven plate, as may be desired. Cold air introduced between boiler holes, prevents plates sagging; also under feed door around fire-box. Fire-back has central part made of fire-clay. Feed door well situated, large, and convenient. Upright grid-iron hangs in front; excellent arrangement for taking out ashes or cleaning flues. Mr. CHILDS claims that this is the *best cheap* stove—the one for the million.

WM. CHILDS, Lady Gay. Fire-place protected by air circulating around into oven. An extension top is fitted to this stove which has patented features. Good display of well-ground sad-irons.

No. 1280. CHAMBERLAIN & Co., Charter Emporia. This stove has a peculiar manner of introducing cold air. A small register is placed on each side on top, about two-thirds way back. The air passes from these along each side towards the front, and into the fire-place, giving warm instead of cold air to fire-place. An air flue on top between boiler holes, double plate in front of oven, extension top and boiler with patent faucet, a center rest to keep plates on top from sagging.

No. 1269. CHAMBERLAIN & Co., Omaha. Ingenious arrangement for separating cinders and ashes, with several of the points belonging to the last named stove.

CHAMBERLAIN & Co., Monogram. Combination coal or wood. A cheaper stove.

No. 1266. CHAMBERLAIN & Co., Beauty. Soft coal base burner. Burns smoke somewhat on the Argand principle, is a reservoir stove, very well arranged for admitting air at proper points.

Nos. 1006 to 1008. WM. RESOR & Co., a large display of Monitor cook and other stoves.

WM. RESOR & Co., Monitor. Door to ash pit and to bottom flue, dumping grate with fingers turned up in front between the upright bars, to more easily clean out clinkers; skeleton fire-back filled in with soapstone in small pieces (a plan common to all of RESOR's stoves), allowing cold air to come in between, catch to prevent dumping grate being turned too far, front doors ventilated, top plate in three pieces, to prevent cracking; also has steel springs under to two side joints in top plate, which allow the top plate to stretch or contract with the expansion or contraction of the body of the stove.

WM. RESOR & Co., Fashion, wood cook. Chambered front doors, enameled iron knobs to oven door. Both Monitor and Fashion have extension top to fit them.

WM. RESOR & Co., Queen, heating stove. Fire-brick lining, annular register, giving more even and regular supply of air to burning fuel; air admitted also between bricks as in Monitor.

WM. RESOR & Co., Casket, parlor cook stove. Same general features as to fire-place.

WM. RESOR & Co., Andes, heating stove. Several sizes of very good general design. Annual register as in Queen.

WM. RESOR & Co., Fireside. Intended to take the place of old Franklin or open fire-place, with patent blowers, etc.

No. 970. N. PATTERSON & Co., Mayflower. A good, serviceable ordinary stove, intended to suit the many who want a good medium priced stove.

No. 395. JOHN B. HERRON & Co., of Pittsburg. Heating stove, burning the smoke on the Argand principle, by bringing two opposite currents of air to meet the smoke at its point of formation, so as to properly mix it for combustion. Design good and ornamental.

No. 693. GREENWOOD STOVE COMPANY, Ohio Valley. Feed door well situated, good ash pans, shed to throw ashes into pan, lined oven doors, double and ventilated fire-doors. In this stove the draft descends the back, thence through center to front, returning on sides—just the reverse of the usual plan. They claim this to be an improvement.

Nos. 1140 to 1202. REDWAY & BURTON, Early Breakfast. Air ducts around fire-place and in front of oven, ventilated fire-doors. They claim to be the first to cut the top plates, to prevent cracking.

REDWAY & BURTON, Great Republic. Same points as above. Portable extension applied to both.

REDWAY & BURTON, Chimney Corner. An open wood stove, can be closed almost air-tight. These stoves have a patent blower which, when not in use, is hidden from sight. Also an attachment to the smoke outlet which can be quickly trans-

formed from an elbow to a straight pipe, and *vice versa*, to suit circumstances. They have also a patent on what they call a *dove*, which makes the casting of the fastening of the stove foot more easy and sure.

No. 772. MEARS, OLHABER & Co., Continental. The peculiarities of this stove are sliding oven doors, long division plate on top, divided in center and resting on a permanent post; self-locking hearth plate, corrugated top oven plate, and ribbed hearth. They have a reservoir which in one respect is superior to others—it can be attached to or detached from any of their stoves, by the use of four screws, without any alteration of the top plate.

MEARS, OLHABER & Co., Perfection, parlor cook. Has oven below fire.

No. 1064. ADAMS, PECKOVER & Co., Improved Alligator. Two flues in bottom instead of three, draft freer; an air chamber between takes air into oven, thence through front oven plate into fire, concave convex top oven plate, revolving grate, not a dumper but an ash sifter, large ash pan, easily got at.

ADAMS, PECKOVER & Co., Alaska, wood stove. Hollow support for wood, conveys air into oven behind fire-back, thence with gases from cooking through fire-back into oven; front door double.

No. 1217. W. C. DAVIS & Co., Paragon. First-rate feed hole, dump grate, drop door in front for broiling on draft register, shelf for stove lids, etc., on side; a warming closet under stove, thus utilizing a space which otherwise is often a nuisance.

No. 480. HARRIS, ZOINER & Co. have two stoves and boiler entered as samples of castings of stove patterns, declared by experts to be first-rate; also the general design of the stoves, as for cooking purposes, are very good.

No. 532. KICE & Co., charcoal furnace. A very neat, well arranged furnace or stove, plates sufficiently heavy, so made as to be easily cast, and in every way very good.

No. 1547. M. GREENWOOD & Co., a ventilated stove pipe thimble for use in wooden partitions. Good for the purpose.

No. 1549. E. C. CHAPMAN, stove pipe thimble, ventilated, also with springs, to more easily confine the pipe from moving, and with stops, to prevent its being pushed too far through. Good for the purpose.

The castings of all the above stoves are very good, the designs generally pleasing, and varied enough to suit all tastes. Cincinnati stove makers have had so much experience in suiting the different wants of stove users, that there is but slight difference in the excellencies of the different stoves. The improvements generally adopted in late years are, among others, the following: Introducing air not only at the bottom of the fire, but also at the ends, back, and top, and even through the oven and back fire-plate, thereby consuming the smoke more perfectly than was done when draft was only supplied below, and, of course, with greater saving of fuel. Shaking and dumping grates—tight-fitting and lined oven doors are used on the best and highest-priced stoves. Extension tops are very common. Each and all the above improvements make the cook stove a more complete article than it was some years ago.

RANGES. Nos. 786 to 789. VAN & SIMONDS, large hotel ranges; have chamber below using as warm chamber or for raising bread or biscuit, large ovens at side of fire-place, with water back and pipes to water tank, flue between water back and oven, open fire at end for broiling or roasting, an oven next to fire-place for broiling or roasting, an abundance of boiler holes on top. They claim also a patent fastening for putting these stoves together, and a groove around the loose plates on top, as they say, to prevent sagging. They have also a separate broiling arrangement, so fitted up as to carry off the fumes from the burning charcoal or cooking meat into the chimney, with a box below for charcoal supply. They have also an extensive carving table, kept hot by water from the fire at one end, and a display of coffee, tea, and milk urns of copper, beautifully got up and substantially made, with inside vessels enameled.

No. 900. ADOLPHUS LOTZE & Co., range. A good substantial piece of work, water pipes not hid in brick work but brought out at top. The water back and pipe can be got at if necessary, without disturbing any thing but a cast iron plate on the top of range.

No. 880. FARES, MILLER & YOUNG, brick range and portable range. General arrangement very similar to all others. The course of the flues is very well arranged for heating the ovens equally. This range has the ends and back lined with sand to keep in the heat. Their broiler has both a down and up draft. The workmanship is very good.

No. 537. CORDESMAN & DIERKER, two portable ranges; good substantial articles, no attempt at display of polished work but intended for service.

No. 666. A. G. WERTHMILLER & Co., Barstow elevated oven range. A very pretty piece of kitchen furniture; two ovens, one above the other, no dampers, draft always surrounding oven, upper oven can be drawn out to clean out flues. All parts inside the edge are of iron and easily kept clean; burns soft coal or any other fuel; a large warming chamber above all; draft regulated by the sliding register in front.

No. 1265. CHAMBERLAIN & Co., Beauty. Elevated oven cooking range, burns soft coal or any other fuel; two ovens set side and side, flues well arranged; two dampers—can shut off either oven and use it for warming oven; has grating between flues which can be used for warm shelf, and is removable. The ovens are well situated for use.

HEATING FURNACES. No. 667. J. REYNOLDS & SON, wrought iron heating furnace, made entirely of wrought iron; fire box lined with tiles, tiles pierced with holes at top to let in air; all seams riveted except one, which is keyed together where it can be taken apart for repairs; two center grate bars are shakers, and all can be easily removed when necessary. The ash door is circular, with beveled edge fitting almost air tight, but of such shape that expansion will not bind it; the draft

is regulated by a brass sliding register, also ground joints. The flues have no dampers and are always unobstructed, burns any kind of fuel; fire-place is oblong with plain sides, so that clinkers are easily knocked off if they form. It has a cap hung on one side of the feed door, which can be swung over the feed hole when cleaning out the ash pit, and it then forms a flue leading into the fire-place, and takes up all the loose ashes which otherwise would fly around outside of the furnace.

The exhibitors of this furnace claim that cast iron is permeable to certain obnoxious gases, which form from the use of coal, and that wrought iron is not, and that wrought iron is therefore preferable. But on examining the documents to which they refer, we find that the objections lie more against anthracite, and in a small degree only against bituminous coal. This furnace being oblong instead of round, and of wrought instead of cast iron, may be said to belong to a different class from the furnaces built here.

No. 789. VAN & SIMONDS, fiery furnace. A slow combustion furnace, the only one on exhibition. The principle advantage in this kind is that it requires very little attendance, thus cutting off a large item of expense.

No. 734. BENNETT HOT AIR FURNACE Co., warm air furnace; has very large air entrance hugging fire-pot all the way up. Broad shallow fire-pot, giving large outside radiating surface, and also large surface from top of fire inside; extensive sheet iron radiating surface where there is less heat from the burning coal. Double case prevents loss of heat outside and also allows entrance of air between jackets, to take up what heat penetrates the inside jacket to convey it to the general volume of hot air. Draft always upward, sand joints.

BENNETT HOT AIR FURNACE Co., Aristo furnace. A base burner for anthracite coal or coke, with other features similar to first.

No. 900. ADOLPHUS LOTZE & Co., warm air furnace. General shape of radiator good, not apt to crack; one furnace has additional wrought iron radiator, casing double, fire-pots of larger ones lined with fire-brick; all joints bolted together

and cemented—they repudiate sand joints—top of fire-pot bound with wrought iron bands.

No. 881. FARES, MILLER & YOUNG, warm air furnace. Fire-pot lined with fire-brick, with spaces between admitting air all round to the fire; very large radiating surface.

No. 738. JOHN GROSSIUS, warm air furnace. A well shaped radiator, with pretty large surface, case double.

No. 537. CORDESMAN & DIERKER, warm air furnace. Very similar in shape of fire-pot and radiator to that of Fares & Miller.

No. 1267. CHAMBERLAIN & Co., Oriental parlor furnace; a stove fitted for warming one room, and at the same time heating air to be conveyed to another room above belong neither to the class of stove or that of furnaces, but has parts of each.

No. 134. BENNETT HOT AIR FURNACE Co's. school-house stove. A warm air furnace placed in the room intended to be warmed, taking the air through a duct between the joists of the floor from the outside of the building. One point in this one is the arrangement for warming the children's feet. A register is placed about one foot from the floor, which when opened, and on shutting the upper one, causes a flow of warm air at that point, where the children can dry and warm their feet. This register extends all round the stove, and is so placed that the feet will be over it. The shake bar and all other parts are so covered that no ashes can escape into the air chamber. It has a very large radiating surface, smoke pipe coming out at top, and an evaporating pan on top.

No. 738. JOHN GROSSIUS, school-house stove. This stove has large radiating surface, the smoke pipe coming out of the top; it also has the lower register for warming feet, but only extending part way around the stove. Another room is fitted for taking air from the room instead of from the outside when circumstances require it.

No. 901. ADOLPHUS LOTZE & Co., school-house stove. Very

similar to the others in general appearance; it has the foot warming register, extending part way around, and an evaporating pan or ring around the top of the stove. It has also a deflector regulated by a screw which throws the air horizontally outwards, which in its course takes up the vapor rising from the warm water, and both go into the room together. Another stove has a flat deflector on top on which the children can warm their dinner buckets.

No. 382. ZERBE, PERINE & Co., a revolving grate; so made that it will serve either of two adjacent rooms. When it is used in one room, a summer front takes its place in the other room.

No. 389. ZERBE, PERINE & Co., a grate basket; with a sliding bottom answering the purpose of a dumping grate.

No. 1208. McDONALD & MURPHY, an adjustable stove shelf for holding stove covers when not in use. A convenient attachment to a stove for various purposes.

No. 918. C. S. RANKIN & Co., enameled grates, marbleized iron mantels, iron railing, and ornamental iron work. A very fine display. Their mantels and fire grates embrace many varieties of imitation of marble; most of the grates highly ornamented by polished and enameled work, and some of them by silver and gold plated work. They have also quite a variety of other ornamental work—chairs, vases, settees, chain, fire standard, cellar and sky lights, animals, birds, etc., in imitation, bronzed, gilded, etc.

No. 762. C. B. EVANS & Co., parlor stoves, marbleized slate mantels, grates, etc. The parlor stoves are of the kind known as Robbin's patent. The grate instead of projecting into the room in front recedes so that its face is concave instead of convex. It is said by those who have used them to heat a room better than the ordinary grate. The display of mantel grates is very fine, having a variety of enameled and polished work, also gold and silver plated ornamenting.

No. 895. DIERCKES, HOFSCULTE & Co., one marbleized mantel, three enameled grates. A good display; not so varied as the others, being so few in number.

We have divided the articles into the following classes, and append to each class the names of those to whom we have assigned the different rates of excellence:

First Class.—Stove pattern castings. 1. No. 480, Harris & Zoiner. 2. No exhibitors. 3. No exhibitors.

Second Class.—Cooking and heating stoves. 1. Nos. 1106 to 1108, Wm. Resor & Co. 2, 3. Between several others we can not decide—all equally good.

Third Class.—Cooking ranges with ovens below, broilers, carving tables, etc. 1. Nos. 786 to 789, Van & Simonds. 2. No. 880, Fares & Miller. 3. No. 901, Adolphus Lotze & Co.

Fourth Class.—Cooking ranges, elevated ovens. 1. No. 1265, Chamberlain & Co. 2. No. 666, Werthmiller & Co. 3. None.

Fifth Class.—Warm air furnaces, cast iron. 1. No. 734, Bennett Hot Air Furnace Co. 2. No. 901, Adolphus Lotze & Co. 3. No. 738, John Grossius.

Sixth Class.—Warm air furnaces, wrought iron. 1. No. 667, J. Reynolds & Son. 2. None. 3. None.

Seventh Class.—School-house stoves. 1. No. 738, John Grossius. 2. No. 900, Adolphus Lotze & Co. 3. No. 734, Bennett Hot Air Furnace Co.

Eighth Class.—Enameled grates. 1. No. 918, C. S. Rankin & Co. 2. No. 762, C. B. Evans & Co. 3. No. 895, Diercke, Hofschulte & Co.

Ninth Class.—Fancy castings. 1. No. 918, C. S. Rankin & Co. 2. No competition. 3. No competition.

HENRY W. STEPHENSON,
JABEZ REYNOLDS,
WM. HUDDART.

AWARDS.

Harris, Zoiner & Co., Stove Patterns.....	<i>Large Silver Medal.</i>
A. G. Werthmiller & Co., Ranges with Elevated Ovens.....	<i>Diploma.</i>
J. Reynolds & Son, Wrought Iron Furnaces.....	<i>Diploma.</i>
Greenwood Stove Co., Cooking Stove.....	<i>Diploma.</i>
Bennett Hot Air Furnace Co., Cast Iron Furnaces.....	<i>Large Silver Medal.</i>
John Grossius, School Stoves.....	<i>Small Silver Medal.</i>
J. Van & Simonds, Cooking Ranges, with Under Ovens, Broil- ers, and Fixtures....	<i>Large Silver Medal</i>
Fares, Miller & Young, Portable Ranges with Under Ovens.....	<i>Diploma.</i>
G. W. Ball & Co., Cooking Stoves.....	<i>Diploma.</i>
W. E. Childs, Cooking Stoves... ..	<i>Diploma.</i>
Adolphus Lotze & Co., Warm Air Furnaces.....	<i>Diploma.</i>
C. S. Rankin & Co., Enameled Grates.....	<i>Diploma.</i>
Wm. Resor & Co., Coal and Wood Cooking and Heating Stoves.....	<i>Large Silver Medal.</i>
Adams, Peckover & Co., Cooking Stoves.....	<i>Diploma.</i>
Redway & Burton, Cooking Stoves.....	<i>Diploma.</i>
W. C. Davis & Co., Cooking Stoves.....	<i>Diploma.</i>
Chamberlain & Co., Ranges, Stoves, and Furnaces.....	<i>Small Silver Medal.</i>
Mears, Olhaber & Co., Cooking Stoves.....	<i>Diploma.</i>
E. C. Chapman, Chimney Thimble and Ventilator.....	<i>Diploma.</i>

NOTE.—The Awards on Mantels will be found in Class 11.

CLASS 3.—SAFES AND SAFE LOCKS.

JUDGES:

N. G. THOM.

FRANK MILLWARD.

GEO. A. GRAY, JR.

No.	Exhibitor.	Residence.	Articles Exhibited.
696	Hall's Safe & Lock Co...	Cincinnati, O.....	Hall's Burglar-Proof Safe.
697	Hall's Safe & Lock Co...	"	Hall's Fire and Burglar-Proof Safe.
698	Hall's Safe & Lock Co...	"	Hall's Patent Concrete Safe.
699	Hall's Safe & Lock Co...	"	Hall's Patent Improved Safe.
700	Hall's Safe & Lock Co...	"	Old Safe—first ever used in Ohio.
701	Hall's Safe & Lock Co...	"	Hall's Combination Bank Locks.
942	Diebold & Kienzle.....	"	Bank Locks.
954	MacNeale & Urban.....	"	Fire and Burglar-Proof Safes.
955	MacNeale & Urban....	"	Combination Locks.
1083	Mosler, Bahman & Co...	"	Safes and Safe Locks.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—In submitting their report on Class No. 3, your Committee beg leave to say that in the manufacture of fire and burglar-proof safes and safe locks, to which this class belongs, Cincinnati stands pre-eminent. For superiority of design and elegance of workmanship, the safes exhibited by HALL'S SAFE AND LOCK COMPANY, and MACNEALE & URBAN, can scarcely be excelled, if equaled.

Among those exhibited your Committee have selected No. 697, by HALL'S SAFE AND LOCK COMPANY, as justly entitled to the *first degree of merit*. This safe has several new and important features for safety and strength, among which are the dovetailing of the corners at each successive plate into each other, thereby securing great strength. The doors also shut into the frame in the same manner, to prevent the top from

being wedged off. Each alternate plate of the doors also close under a corresponding projecting plate on the frame, in addition to the usual heavy draw bolts, the frame of which is thoroughly secured to the door. The door covering the treasure box has a lip entirely around the edge, shutting into a corresponding groove in the frame, preventing the possibility of introducing any explosive compound into the box for its destruction. On the whole, your Committee consider this a most thorough and substantial piece of workmanship, every way calculated to secure the object for which it was designed.

No. 954 is MACNEALE & URBAN's fire and burglar-proof safe, designed for the same purpose as No. 697, and is the largest safe on exhibition, weighing some thirty-six thousand pounds. The workmanship on this safe is of the best character, and its walls massive and seemingly invulnerable to the arts of the burglar. It has a double-door treasure box, secured by strong locks and bolts working in opposite directions, on the same line of direction. It has also two secret depositories, well secured and protected, and so concealed as would be scarcely discovered by the burglar. An excellent feature in this safe, as well as in all made by this Company, is the placing of the locks on the inside of the concrete walls of the safe, thereby securing the lock from injury when exposed to a high degree of heat. The whole combines a substantial and excellent piece of workmanship, and your Committee consider it entitled to a *second degree of merit*.

No. 696 is HALL's burglar-proof safe by the same Company as No. 697. This safe is secured at the corners and doors the same as No. 697, and has the same provisions against the introduction of explosive compounds, and has an additional security in its doors of eight flat bolts in each, locking behind the inner frame plates, in addition to ordinary draw bolts and dovetail devices of the other safe. It has also a secret treasure box well secured and concealed. This safe, like the others from this firm, is of most excellent workmanship and design, and entitled to the *first degree of merit* in its class.

No. 699 is HALL's patent improved safe, from the same firm as the last mentioned, and of the same quality in workmanship and design. It has some additional and novel features in its construction, however, for the protection of the contents from fire, justly deserving notice. This consists in placing within the concrete walls of the safe—hermetically sealed—vessels containing water, which, when the safe is subjected to a high degree of heat, is converted into steam, which pervades the whole inner apartments of the safe, and protects the contents from destruction. For this device and its general superior construction, your Committee consider it entitled also to a *first degree of merit*.

The safes exhibited by MOSLER, BAHMAN & Co. are of good and substantial workmanship, and the working parts thoroughly fitted and finished. Among them a family safe is exhibited, of very convenient construction, and sufficiently fire and burglar proof for family purposes, and the Committee think them entitled to a *third degree of merit*.

No. 701 are twelve safe and bank locks exhibited by HALL's SAFE AND LOCK Co., a collection of ingenuity and skill which would be hard to excel. Many of these locks combine so much similarity that it is difficult for the casual observer to detect the difference in principle, yet each, as well as those exhibited by MACNEALE & URBAN and DIEBOLD & KIENZLE, have their distinctive features and advantages, but it would require too much space for your Committee to present all the valuable points for security contained in this collection. They have therefore selected HALL's double premier as entitled to *first class merit* for security and safety; and among the collection of single locks HALL's "Crescent," and MACNEALE & URBAN's "Improved Excelsior," as both being entitled to *first class merit* in their class.

Messrs. DIEBOLD & KIENZLE's collection of bank and safe locks are thoroughly made and ingeniously devised, and your Committee consider entitled to *second class merit*.

In conclusion, your Committee consider that Cincinnati

has cause to be justly proud of the mechanical skill and ingenuity displayed in this class of manufactures, as well as the artistic taste exhibited in their decoration.

Respectfully submitted,

N. G. THOM,

FRANK MILLWARD,

G. A. GRAY, JR.

AWARDS.

Hall's Safe and Lock Co., Fire, Burglar Proof and Concrete Safes and Bank Locks.....	Gold Medal.
Diebold & Kienzle, Bank Locks.....	Small Silver Medal.
MacNeale & Urban, Fire and Burglar Proof Safes and Combination Locks.....	Large Silver Medal.
Mosler, Bahman & Co., Safes and Safe Locks.....	Diploma.

CLASS 4.

Building Hardware and Materials.

JUDGES:

E. ANDERSON.

C. H. HERON.

ARTHUR BATE.

No.	Exhibitor.	Residence.	Articles Exhibited.
303	Stanley Rule & Level Co	New Britain, Conn..	Bailey's Patent Iron and
324	Overmeyer, Motherwell & Olds.....	Lancaster, O.....	Wood Planes. Cutting-Box Knife.
325	Overmeyer, Motherwell & Olds.....	"	Pick-Axe.
326	Overmeyer, Motherwell & Olds.....	"	Railroad Spike Maul.
327	Overmeyer, Motherwell & Olds.....	"	Post Spoon.
328	Overmeyer, Motherwell & Olds.....	"	Shovel.
371	Schwab & Reinhart.....	Cincinnati, O.....	Wrought Iron Locks.
383	Zerbe, Perine & Co.....	"	Shutter Fastener.
388	Zerbe, Perine & Co.....	"	Weather Strip.
445	Louisville Edge Tool Co	Louisville, Ky.....	Edge Tools.
472	Wm. McKinney & Co....	Cincinnati, O.....	Butts, Table, and Trunk Hinges.
500	Schroeder Lock Co.....	"	Wrought Iron Door Locks.
501	Schroeder Lock Co.....	"	Door Knobs.
502	Schroeder Lock Co.....	"	Door Hinges.
516	S. H. Hall.....	"	Weather Strips.
586	Ohio Butt Co.....	Columbus, O.....	Cast Iron Butt Hinges.
656	C. S. & S. Burt.....	Salem, O.....	Manufactured Shingles.
659	George McGregor & Son	Cincinnati, O.....	Locks.
665	Wm. McKinney & Co....	"	Wrought Iron Butts and Ta- ble Hinges.
684	L. C. Hall.....	"	Patent Sash Lock, and Frame.
745	Charles Gooch.....	"	Tools and Sample Boards.
746	Charles Gooch.....	"	Ice Cream Machine and Freezers.
752	Oliver Kells.....	Steubenville, O.....	Metallic Hearth.
764	Schumacher & Johnson..	Milwaukie, Wis.....	Patent Blind Hinge.
769	Coffin, Shays & Co	Cincinnati, O.....	Files.
790	W. F. & V. Whitney.....	"	White Pine Plank.
815	Amos Barr.....	Springfield, O.....	Level, Bevel, Square, and Rule Combined.
816	American Bolt and Nut Works	Cincinnati, O.....	Bolts, Nuts, Washers, etc.
818	Loughead & Porter.....	"	Sash, Door, Blinds, and Mouldings.
938	H. Pfister.....	"	Locks.
939	H. Pfister.....	"	Bell Work.

CLASS 4, BUILDING HARDWARE AND MATERIALS, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
947	Henry Read.....	Cincinnati, O.....	Fancy Newells.
982	Jas. L. Wayne & Son.....	".....	Weather Strip and Screws.
990	Conrad Gross.....	".....	Blacksmiths' Hammer.
1013	Marsh & Co.....	".....	Plaster.
1035	French Bros.....	Nashville, Tenn.....	Ax and Sledge Handles, etc.
1081	Samuel Males.....	Cincinnati, O.....	Improved Shutter Brake.
1129	James Griffith & Son.....	".....	Doors and Window Shutters.
1136	Julius Katz.....	".....	Wood Planes.
1156	Truman B. Handy.....	".....	Book Case and Writing Desk Combined.
1190	J. L. Henderson.....	Covington, Ky.....	Patent Frame for Support of Hearth.
1253	Howell Gano & Co.....	Cincinnati, O.....	Pocket Cutlery (Ex. only).
1255	Howell Gano & Co.....	".....	Files and Edge Tools.
1257	Howell Gano & Co.....	".....	Tools and Cutlery (Ex. only).
1258	Howell Gano & Co.....	".....	Stephens' Vises.
1259	Smith, Kelley & Co.....	Toledo, O.....	Shingles.
1260	Bundy & Martindale.....	East Saginaw, Mich.....	Shingles.
1262	Bodley, Avery & Co.....	Toledo, O.....	Pine Plank.
1263	D. F. Rose.....	East Saginaw, Mich.....	Pine Plank.
1291	Red Mountain Iron and Coal Co.....	Shelby Co., Ala.....	Sample of Marble.
1295	J. W. Whitaker.....	Columbia, O.....	Pressed Brick.
1299	Mills, Spellmire & Co....	Cincinnati, O.....	Doors, Inside Shutters, and Ornamental Porch.
1538	M. Greenwood & Co.....	".....	Cast Iron Door Locks, Wro'ght Iron Hinges, Butts, etc.
1539	M. Greenwood & Co.....	".....	Self-Closing Gate Hinges & Latches, Cast Iron Butts, etc.
1540	M. Greenwood & Co.....	".....	Ornamental Housekeeping Hardware.
1548	Samuel Miller.....	Gratis, O.....	Combination Door and Safe Lock and Latch.
1569	Shoenberger & Co.....	Cincinnati, O.....	Cut Nails and Spikes.
1626	Taylor & Faulkner.....	".....	Doors, Sash, Blinds, and Pulpit.
801	James L. Haven & Co....	".....	Assortment of Builders' Hardware.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The undersigned, Judges of Class No. 4, respectfully beg leave to report that, after a careful and thorough investigation, they have assigned to the several entries the following degrees of merit or commendatory notice:

No. 303. A superior article in all respects. *First.*

- Nos. 324, 325, 326, 327, and 328. *Third.*
- No. 371. *Third.*
- Nos. 383 and 388. No report.
- No. 438. Machines of great practical utility. *First.*
- No. 445. First-class in all respects. *First.*
- No. 472. Superior to any similar goods in the market.
First.
- Nos. 500, 501, and 502. Very superior, especially the knobs
and hinges. *First.*
- No. 516. No report.
- No. 586. *Second.*
- No. 656. Not found.
- No. 659. Very superior, especially the bank and school-
house locks. *First.*
- No. 665. Included in report of No. 472.
- No. 684. *Second.*
- No. 745. A class of standard goods. *First.*
- No. 746. *First.*
- No. 752. *Second.*
- No. 764. *Third.*
- No. 769. *Second.*
- No. 790. *Second.*
- No. 815. *Second.*
- No. 816. Very superior. *First.*
- No. 818. *Second.*
- No. 938. *Third.*
- No. 939. *First.*
- No. 947. No report.
- No. 982. *First.*
- No. 990. *First.*
- No. 1013. No report.
- No. 1035. Of superior quality and finish. *First.*
- No. 1081. Not found.

- No. 1129. *First.*
 No. 1136. Not found.
 No. 1156. *First.*
 No. 1190. *Second.*
 No. 1253. *First.*
 No. 1255. *Second.*
 No. 1257. *First.*
 No. 1258. Decidedly superior. *First.*
 No. 1259. *First.*
 No. 1260. *First.*
 No. 1262. *Third.*
 No. 1263. *First.*
 No. 1291. Not found.
 No. 1295. No report.
 No. 1299. *Third.*
 No. 1538. *Second.*
 No. 1539. *First.*
 No. 1543. An extensive line of goods. *First.*
 No. 1548. *First.*
 No. 1569. In all respects—*First.*
 No. 1636. *Second.*
 No. 801. A great variety and of standard quality. *First.*

(Signed,)

E. ANDERSON,
 C. H. HERON,
 A. BATE.

AWARDS.

Stanley Rule & Level Co., Bailey's Patent Iron and Wood

Planes	<i>Large Silver Medal.</i>
Overmeyer, Motherwell & Olds, Building Hardware.....	<i>Diploma.</i>
Schwab & Reinhart, Wrought Iron Locks.....	<i>Diploma.</i>
Louisville Edge Tool Co., Edge Tools.....	<i>Small Silver Medal.</i>
Wm. McKinney & Co., Butts, Table, and Trunk Hinges.....	<i>Small Silver Medal.</i>
Schroeder Lock Co., Locks, Knobs, and Hinges.....	<i>Large Silver Medal.</i>
Geo. McGregor & Son, Locks.....	<i>Large Silver Medal.</i>
Charles Gooch, Ice Cream Machine and Freezers.....	<i>Diploma.</i>
Oliver Kells, Metallic Hearth.....	<i>Diploma.</i>
Coffin, Shays & Co., Files.....	<i>Diploma.</i>
W. F. & V. Whitney, Pine Plank.....	<i>Diploma.</i>
American Bolt & Nut Works, Bolts, Nuts, and Washers.....	<i>Large Silver Medal.</i>
Loughead & Porter, Sash, Doors, Blinds, etc.....	<i>Small Silver Medal.</i>
H. Pfister, Locks and Bell Work.....	<i>Diploma.</i>
Henry Read, Fancy Newells.....	<i>Diploma.</i>
Jas. L. Wayne & Son, Display of Hardware.....	<i>Diploma.</i>
Conrad Gross, Blacksmith Hammer..	<i>Diploma.</i>
James Griffith & Son, Doors and Window Shutters.....	<i>Small Silver Medal.</i>
T. B. Handy, Specimens of Joinery.....	<i>Small Silver Medal.</i>
Howell Gano & Co., Files and Edge Tools.....	<i>Diploma.</i>
Howell Gano & Co., Stephens' Vises.....	<i>Large Silver Medal.</i>
Smith, Kelley & Co., Shingles.....	<i>Diploma.</i>
Bundy & Martindale, Shingles.....	<i>Diploma.</i>
D. F. Rose, Pine Plank.....	<i>Diploma.</i>
Mills, Spellmire & Co., Doors, Inside Shutters, and Porch.....	<i>Diploma.</i>
M. Greenwood & Co., Hardware.....	<i>Large Silver Medal.</i>
Samuel Miller, Combination Door and Safe Lock and Latch.....	<i>Diploma.</i>
Shoenberger & Co, Cut Nails and Spikes.....	<i>Large Silver Medal.</i>
Taylor & Faulkner, Door, Sash, Blinds, and Pulpit.....	<i>Small Silver Medal.</i>
Jas. L. Haven & Co., Builders' Hardware.....	<i>Large Silver Medal.</i>

CLASS 5.

Iron and Brass Castings, Gas Fixtures, Plumbing, Tin, Sheet-Iron and Copper Work.

JUDGES:

SAMUEL CUMMINGS.

CHAS. S. RANKIN.

EZRA COPE.

No.	Exhibitor.	Residence.	Articles Exhibited.
311	Marshall & McCarter....	Cincinnati, O.....	Babbitt Sterotype and Type Metal.
344	Robson & Co.....	"	Beer Pumps, Shifters, and Pumps.
345	Robson & Co.....	"	Slide and Screw Vacuum Valves.
346	Robson & Co.....	"	Hinge Vacuum and Blow-off Valves.
703	Robson & Co.....	"	Brass Distillery Castings.
360	Oscar Warden.....	"	Steamboat Signal Lamps.
364	Fewlass & Hodgson.	"	Brass Finished Goods.
372	W. C. Huntington.....	"	Lamps.
374	W. C. Huntington.....	"	Earth Closet Commode.
381	Zerbe, Perine & Co.....	"	Gasoline Soldering Apparatus.
386	Zerbe, Perine & Co.....	"	Car Couplings.
412	Wm. J. Lowry.....	"	Zinc Slabs and Spelter.
413	Wm. J. Lowry.....	"	Sheet Zinc.
424	Samuel Males.....	"	Public Urinal Bowls.
473	Joseph Busse.....	"	Milk Cans.
481	E. B. Ward.....	Detroit, Mich.....	Railroad Pig and Boiler Plate Iron, etc.
482	E. B. Ward.....	"	Photographs of North Chicago.
485	H. Belmer & Co.....	Cincinnati, O.....	Wire Goods.
489	Spear & Co.....	"	Coal Oil Lamps and Fixtures.
491	Hendrick, Wilson & Co..	Dayton, O.....	Brass Work.
492	Dayton Malleable Iron Co.....	"	[ings. Card of Malleable Iron Cast-
494	James J. Lyon.....	Cincinnati, O.....	Catch Basin for Sewers—(Model).
503	Conover & Co.....	"	Gas Meter.
514	Wm. Bierman.....	"	Milk Cans.
526	Knecht & Kempf.....	"	Column Castings, Dog Irons, and Hat Rack Dishes.
536	Thomas S. Smith.....	"	Sheet Iron Tree Boxes.
614	F. Lunkenheimer.....	"	Brass Work.
1667	F. Lunkenheimer.....	"	Globe Valves.
615	North Western Manf'g Co	Chicago, Ill.....	Steam Pipe Fittings.
624	Vanduzen & Tift.....	Cincinnati, O.....	Church, Steamboat, & School Bells.

CLASS 5, CASTINGS, GAS FIXTURES, PLUMBING, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
625	Vanduzen & Tift.....	Cincinnati, O.....	Farm, Hand, & Alarm Bells.
626	Vanduzen & Tift.....	"	Babbitt Metal and Lock-up Safety Valves.
629	Sellew & Co.....	"	Zinc Ornaments.
630	Sellew & Co.....	"	Black Lead Crucibles.
1089	Sellew & Co.....	"	Coppersmiths' and Tinmans' Solder.
634	Henry Varwig.....	"	Brass Castings.
650	Gibson & Ogden.....	"	Copper Bath Tub.
892	Gibson & Ogden.....	"	Marble Top Washstand.
893	Gibson & Ogden.....	"	Valve Water Closet.
652	A. Berg & Co.....	"	Copper Alcohol Distillery.
660	George McGregor & Son.	"	Bell Material.
722	Dr. Musgrave.....	"	Gas Cooking Apparatus.
727	Wm. Kirkup & Son.....	"	Brass Goods for Locomotives.
728	Wm. Powell & Co.....	"	Brass Goods.
729	Wm. Powell & Co.....	"	Regrinding Globe Valves.
730	Wm. Powell & Co.....	"	Plumbers' Brass and Plated Ware.
932	Wm. Powell & Co.....	"	Compression Cocks & Valves.
934	Wm. Powell & Co.....	"	Plumbers' Supplies.
741	Post & Co.....	"	Brass Castings.
748	Taylor, Strow & Co.....	Philadelphia, Pa.....	Black Lead Crucibles.
812	T. J. Nottingham.....	Cincinnati, O.....	Brass Castings and Brass Work.
837	Pomeroy, Mendenhall & Co.....	"	Sheet Iron.
875	Grundy Co.....	Boston, Mass	Lathe Pipe Cutters.
876	Grundy Co.....	"	Brass Cocks.
877	American Tube Co.....	"	Seamless Brass Tubings.
878	American Tube Co.....	"	Seamless Copper Tubings.
882	M. Greenwood & Co.....	Cincinnati, O.....	Brass Castings.
889	Dunn & Witt.....	"	Galvanized Iron Work.
906	McHenry & Co.....	"	Lamps, Fixtures, and Plumb- ers' Goods.
931	American Tube Works...	Boston, Mass.....	Plumbers' Brass Water Pipes and Fittings.
933	W. B. Scaife.....	Pittsburg, Pa.....	Iron Circulating Boilers.
950	Greenwood Pipe Co.....	Cincinnati, O.....	Oil and Tallow Globes, Re- grinding Globe Valves, etc.
969	J. B. & T. Gibson	"	Plumbers' Goods and Brass Work.
1009	S. C. Tatum.....	"	Iron Castings and Patent Flasks.
1067	Samuel Males.....	"	Urinal Bowl, with Improved Detachment and Strainer.
1097	J. Van & Simonds.....	"	Hotel Copper Ware.
1111	Dayton Malleable Iron Co.	Dayton, O.....	Malleable Iron Castings.
1163	Peters & Kattenhorn.....	Cincinnati, O.....	Globes and Lanterns.
1226	W. L. Fish.....	Springfield, Mass....	Tobacco Sprinklers.
1289	B. A. Johnson.....	Jeffersonville, Ind...	Patent Street Lantern and Stand.
1300	Quaker Burner Co.....	Boston, Mass.....	Coal Oil Burners.

CLASS 5.—CASTINGS, GAS FIXTURES, PLUMBING, ETC.—CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1518	J. H. McMullin	Louisville, Ky.....	Stock Bells.
531	American Gas Tip Manu- facturing Co.....	Cincinnati, O.....	Steatite Gas Tips, etc.
1047	Pollard & Mullaney.....	"	Bird Cages and Wire Goods.
1645	Wm. Bromwell & Co.....	"	Assortment of Wire Goods.
1540	M. Greenwood & Co.....	"	Malleable and Gray Iron Castings.
1560	J. Q. Jaynes.....	"	Patent Paper Burner.
1565	C. S. Tallmadge & Co.....	"	Lamps, Chandeliers, and Gas Cooking Apparatus.
1711	E. Ransom	Flint, Mich.....	Steam Globe Valves.
1583	Wm. S. Carr & Co.....	New York City	Valve Closet Brass Pump and Valve Hopper.
1592	Wm. Lynn & Co.....	Cincinnati, O.....	Chandeliers.
1593	Wm. Lynn & Co.....	"	Portable Stands.
1594	Wm. Lynn & Co.....	"	Fancy Brackets.
1595	Wm. Lynn & Co.	"	Study Lamps.
1596	Wm. Lynn & Co.....	"	Large Bronzes.
1597	Wm. Lynn & Co.....	"	Gas Shades.
1598	Wm. Lynn & Co.....	"	Paper Weights.
1599	Wm. Lynn & Co.....	"	Arch Decorated with Globes.
1601	Wm. Lynn & Co.....	"	Dome Reflector, Silver Plated.
1602	Wm. Lynn & Co.....	"	Window Reflectors, Silver Plated.
1659	Blymyer, Norton & Co...	"	Church and Farm Bells, Steel Composition.
1666	Thos. Langan	"	Horseshoes.
1678	L. W. Leary.....	Norfolk, Va.....	Champion Lantern(Ex. only).
618	David Cammerer.....	Cincinnati, O.....	1 Copper Distill Apparatus.
1700	Fort & Austing.....	"	2 Hydrants.
1703	Jacob Simon.....	"	2 Water Filters.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We herewith respectfully submit our report:

No. 629. SELLEW & Co., lot of zinc ornaments. *First merit.*

No. 630. SELLEW & Co., lot of Dixon's black lead crucibles.
First merit.

No. 311. MARSHALL & McCARTER, Babbitt metal for machines, stereotype and Babbitt metal, best assortment. *First merit.*

Nos. 344 to 346. ROBSON & Co., distillers' brass work.
First merit.

No. 703. ROBSON & Co., distillery brass castings. One spirit tester and high and low wine separator, approved by distillers generally. *First merit.* One spring try cock stills. *Third merit.*

No. 360. OSCAR WARDEN, two steamboat signal lamps. *First merit.*

No. 364. FEWLASS & HODGSON, brass finished goods. *Second merit.* One iron frame glass tube water gauge. *First merit.* One spiral stem gauge cock. *Third merit.*

No. 364. FEWLASS & HODGSON, one reversible seat globe valve. *Third merit.* One oil and tallow cup. *First merit.* Sample brass castings. *Honorable mention.*

No. 372. WM. C. HUNTINGTON, non-explosive lamps. *Honorable mention.*

No. 374. WM. C. HUNTINGTON, one earth closet commode. *First merit.*

No. 381. ZERBE, PERINE & Co., gasoline soldering apparatus.

No. 386. ZERBE, PERINE & Co., one car coupling.

No. 391. ZERBE, PERINE & Co., one iron bridge, not to be found.

No. 412. WM. J. LOWRY, zinc slabs and spelter. *Honorable mention.*

No. 413. WM. J. LOWRY, two pieces battery plates. *Third merit.* Lot rolled sheet zinc, very fine samples. *First merit.*

No. 424. SAMUEL MALES, two public urinal bowls. *First merit.*

No. 1067. SAMUEL MALES, urinal bowls with improved detachment and strainer. *First merit.* These arrangements are a great public convenience and add largely to the sanitary condition of the locality where used.

No. 473. JOS. BUSSE, one dozen milk cans. Best display, material and workmanship good. *Second merit.*

No. 514. WM. BIERMAN, four milk cans. Good material and workmanship. *Honorable mention.*

No. 526. KNECHT & KEMPF, one column castings, eight dog irons, and seven hat rack dishes. *Second merit.*

No. 536. THOMAS S. SMITH, lot of sheet iron tree boxes. *First merit.* Best display of perforated iron work.

No. 614. F. LUNKENHEIMER, lot of brass work. Quality of material and workmanship good. *First merit.* Second best castings for brass goods. *Second merit.*

No. 1667. F. LUNKENHEIMER, regrinding globe valves. *Third merit.* Tallow cup for steam engine. *Second merit.* Self-acting cylinder cock. *First merit.* Brewers' lamp. *Honorable mention.* Conservator for wine and beer casks. *First merit.*

No. 615. NORTH-WESTERN MANUFACTURING COMPANY, case malleable iron, steam pipe fittings. *Honorable mention.*

No. 624. VANDUZEN & TIFT, church, steamboat, and school bells. *First merit.*

No. 625. VANDUZEN & TIFT, bronze farm bell, and assortment of hand and alarm bells. *First merit.*

No. 626. VANDUZEN & TIFT, Babbit metal. *Second merit.* A fine display in this line of manufacture.

No. 481. E. B. WARD, railroad iron and pig metal, boiler plate iron and flange iron. *Honorable mention.*

No. 482. E. B. WARD, photographs of North Chicago.

No. 485. H. BELMER & Co., lot of wire sundry goods. Good display in this line. *Second merit.*

No. 489. SPEAR & Co., lot of coal oil lamps and fixtures. Best display; no competition. *First merit.*

No. 491. HENDRICK, WILSON & Co., case of brass work, as samples of workmanship only. *Honorable mention.* One regrinding globe valve. *Second merit.* One compression cock. *Honorable mention.*

No. 492. DAYTON MALLEABLE IRON COMPANY, malleable iron castings on sample card. *Second merit.*

No. 494. JAS. J. LYON, model catch basin for sewers. A worthy invention, and as a sanitary measure is a valuable improvement. *First merit.*

- No. 503. CONOVER & Co., gas meter. *First merit.*
- No. 1163. PETERS & KATTENHORN, assortment globes and lanterns. *First merit.*
- No. 1289. B. A. JOHNSON, patent street lantern and stand. *Honorable mention.*
- No. 1300. QUAKER BURNER COMPANY, Quaker burner for coal oils. *Third merit.*
- No. 1518. J. H. McMULLIN, Kentucky stock bells. *First merit.*
- No. 531. AMERICAN GAS TIP MANUFACTURING COMPANY, one case of steatite gas tips, etc. *Honorable mention.*
- No. 1047. POLLARD & MULLANEY, assortment bird cages and wire goods. *Third merit.*
- No. 1645. WM. BROMWELL & Co., assortment wire goods. *First merit.*
- No. 1646. PETER SCHWAN, ten fancy birds and cages. *Honorable mention.*
- No. 1540. M. GREENWOOD & Co., malleable and gray iron castings. *First merit.*
- No. 1560. J. DEJAYNES, one patented vapor burner. *Third merit.*
- No. 1565. C. S. TALLMADGE & Co., lamps, chandeliers, and gas cooking apparatus. *Honorable mention.*
- No. 1583. WM. S. CARR & Co., one valve closet. *Honorable mention.* Three brass pumps. *Second merit.* One valve hopper. *Third merit.* Goods well finished, novel in construction.
- Nos. 1592, 1593, 1594, 1595, 1596, 1597, and 1598. WM. LYNN & Co., chandeliers, portable stands, fancy brackets, study lamps, large bronzes, gas shades, paper weights. A handsome display in this line. *Third merit.*
- No. 1599. WM. LYNN & Co., arch decorated with globes. A good display and showing mechanical skill. *Second merit.*
- No. 1601. WM. LYNN & Co., one dome reflector, silver plated. *Honorable mention.*

No. 1602. WM. LYNN & Co., three window reflectors, silver plated. *Honorable mention.*

No. 1659. BLYMYER, NORTON & Co., steel composition church and farm bells. *Third merit.*

No. 1678. L. W. LEARY, one champion lantern (exhibition only). This is a very excellent lantern.

No. 618. DAVID CAMMERER, one copper distill apparatus. *First merit.*

No. 1700. FORT & AUSTING, two hydrants. *Third merit.*

No. 1436. E. RANSOM, steam globe valve.

No. 812. T. J. NOTTINGHAM, brass castings. *Second merit.*
Finished brass work. *Third merit.*

No. 837. POMEROY, MENDENHALL & Co., sheet iron. Surface of iron very fine; quality of iron good. *Honorable mention.*

No. 875. GRUNDY COMPANY, eighteen lathe pipe cutters. *First merit.*

No. 876. GRUNDY COMPANY, samples brass cocks. *Ordinary.*

Nos. 877 and 878. AMERICAN TUBE COMPANY, samples of drawn brass tubing, samples of seamless drawn copper tubing for steam boilers. These are very fine samples of tubing, and should have the full merit they deserve. *First merit.*

No. 882. M. GREENWOOD & Co., brass castings. Best samples of light fancy brass castings, best samples of heavy brass castings. *First merit.*

No. 889. DUNN & WITT, galvanized iron work. A good display in this branch, and reflects great credit upon the manufacturers. *First merit.*

No. 634. HENRY VARWIG, case brass castings. *Honorable mention.*

No. 650. GIBSON & OGDEN, copper bath tub. A fine piece of work. *Third merit.*

No. 652. A. BERG & Co., copper still. *Second merit.*

No. 660. GEORGE MCGREGOR & SON, bell material. A fine collection. *Third merit.*

No. 722. DR. MUSGRAVE, gas cooking apparatus. *Third merit.*

No. 727. WM. KIRKUP & SON, locomotive brass goods. *Third merit.*

No. 728. WM. POWELL & Co., engine builders' brass goods. *Third merit.*

No. 729. WM. POWELL & Co., Regrinding globe valve. *First merit.*

No. 730. WM. POWELL & Co., plumbers' brass and plated ware. *First merit.*

No. 741. POST & Co., brass castings. Best display of brass castings for railroad supplies.

No. 748. TAYLOR, STROW & Co., lot black lead crucibles. *Second merit.*

No. 892. GIBSON & OGDEN, one stationary wash stand, marble top. *Third merit.*

No. 893. GIBSON & OGDEN, one valve water closet. *Third merit.*

No. 906. McHENRY & Co., general assortment of lamp fixtures, samples, and plumbers' goods. A fine display; quite creditable. *Third merit.*

No. 931. AMERICAN TUBE WORKS, plumbers' brass water pipes and fittings. *Third merit.*

No. 932. WM. POWELL & Co., assortment of compression cocks and valves. *Second merit.*

No. 934. WM. POWELL & Co., assortment of plumbers' supplies. *Third merit.*

No. 933. W. B. SCAIFE, black and galvanized iron and circulating boilers. *Second merit.*

No. 950. GREENWOOD PIPE COMPANY, oil globes, tallow globes, radiators for house heating. *First merit.* Brass work. *Second merit.* Pipe cutters.

No. 969. J. B. & T. GIBSON, plumbers' goods and brass work. *First merit.*

No. 1009. S. C. TATUM, assortment of iron castings (light and heavy). *Second merit.* Patent flasks. *Honorable mention.*

No. 1089. SELLEW & Co., solder for coppersmiths' use. Solder for tinsmiths' use. *Honorable mention.*

No. 1097. J. VAN & SIMONDS, hotel copper ware. *Third merit.*

No. 1111. DAYTON MALLEABLE IRON COMPANY, card of iron castings. *Second merit.*

SAM'L CUMMINGS,
EZRA COPE,
CHARLES S. RANKIN.

AWARDS.

Marshall & McCarter, Babbitt Stereotype and Type Metal.....	Diploma.
Robson & Co., Distillery Brass Work.....	Diploma.
Oscar Warden, Steamboat Signal Lamps.....	Diploma.
William J. Lowry, Sheet Zinc.....	Diploma.
Joseph Busse, Milk Cans.....	Diploma.
E. B. Ward, General Display of Manufactured Iron.....	Diploma.
Spear & Co., Coal Oil Lamps and Fixtures.....	Diploma.
Jas. J. Lyon, Catch Basin for Sewers.....	Diploma.
Conover & Co., Gas Meter.....	Diploma.
Thos. S. Smith, Perforated Iron and Steel.....	Diploma.
F. Lunkenheimer, Brass Work.....	Diploma.
Vanduzen & Tift, Bells.....	Large Silver Medals.
Sellew & Co., Zinc Ornaments.....	Diploma.
Gibson & Ogden, Copper Bath Tub.....	Diploma.
A. Berg & Co., Copper Alcohol Distillery.....	Diploma.
Dr. Musgrave, Gas Cooking Apparatus.....	Diploma.
Wm. Kirkup & Son, Brass Goods for Locomotives.....	Diploma.
Wm. Powell & Co., Plumbers' Brass and Plated Ware and Regrinding Globe Valves.....	Diploma.
Pomeroy, Mendenhall & Co., Sheet Iron.....	Diploma.
Grundy Co., Lathe Cutters.....	Diploma.
American Tube Co., Seamless Drawn Brass Tubings.....	Diploma.
M. Greenwood & Co., Brass Castings.....	Diploma.
Dunn & Witt, Galvanized Iron Work.....	Large Silver Medal.
McHenry & Co., Display of Gas Fixtures, etc.....	Diploma.
Wm. B. Scaife, Black and Galvanized Iron Kitchen Range Boilers.....	Small Silver Medal.
Greenwood Pipe Co., Oil and Tallow Globes and Radiators.....	Diploma.

J. B. & T. Gibson, Plumbers' Goods and Brass Work.....	<i>Large Silver Medal.</i>
S. C. Tatum, Iron Castings.....	<i>Diploma.</i>
J. Van & Simonds, Hotel Copper Ware.....	<i>Diploma.</i>
Dayton Malleable Iron Co., Iron Castings.....	<i>Diploma.</i>
Peters & Kattenhorn, Globes and Lanterns.....	<i>Diploma.</i>
J. H. McMullin, Stock Bells.....	<i>Diploma.</i>
American Gas Tip Manufacturing Co., Steatite Goods.....	<i>Diploma.</i>
W. Bromwell & Co., Wire Goods.....	<i>Diploma.</i>
M. Greenwood & Co., Malleable and Gray Iron Castings.....	<i>Diploma.</i>
W. S. Carr & Co., Valve Closet, Brass Pump, and Valve Hopper.....	<i>Diploma.</i>
Wm. Lynn & Co., Display of Gas Fixtures and Fitting.	<i>Small Silver Medal.</i>
Blymyer, Norton & Co., Steel Composition Bells.....	<i>Large Silver Medal.</i>
David Cammerer, Copper Distill Apparatus.....	<i>Diploma.</i>
The Dixon Crucible Co., Crucibles.....	<i>Diploma.</i>

CLASS 6.

Iron, Steel, Scales, and Saws.

JUDGES:

WM. J. LOWRY.

JABEZ REYNOLDS.

JAS. R. MAXWELL.

No.	Exhibitor.	Residence.	Articles Exhibited.
380	Kimball & Co.....	Cincinnati, O.....	Meat Saws.
552	Park, Bro. & Co.....	Pittsburg, Pa.....	Steel and Polished Goods.
585	Woodrough & McParlin.	Cincinnati, O.....	Saws.
1676	Woodrough & McParlin.	"	Circular Saw.
591	George S. Moore & Co....	Louisville, Ky.....	Hot Blast and Scotch Pig Iron.
592	George S. Moore & Co....	"	Hecla Cold Blast Pig Iron.
593	George S. Moore & Co....	"	Cold Blast Pig Iron.
594	Forsyth Scale Works....	Cincinnati, O.....	3500 Column Dormant Scale.
595	Forsyth Scale Works....	"	Letter and Manifest Presses and Even Balanced Scales.
596	Forsyth Scale Works....	"	Grocery and Drug Scales.
597	Forsyth Scale Works....	"	6 Ton Suspension and Platform Scales.
598	Forsyth Scale Works....	"	Pig Iron and Rolling Mill Scale.
599	Forsyth Scale Works....	"	Cotton Beams and Platform Counter Scales.
664	E. Whitehead, Jr.....	"	Horseshoes.
737	Covington Rail Mill Co..	Covington, Ky.....	Railroad Iron.
742	Post & Co.....	Cincinnati, O.....	Steel and Iron Railroad Bars.
749	Licking Iron Works	"	Sheet, Boiler, Bar, Angle, and Bridge Iron.
750	Licking Iron Works.....	"	Rivets, Fish Plates, Chains, and Railroad Spikes.
791	Addy, Hull & Co.....	"	Iron and Iron Ores.
797	Morris & Reith.....	"	Recut Files.
798	Marmet & Co.....	"	Coke and Coal.
835	Pomeroy, Mendenhall & Co.....	"	Iron and Steel.
836	Pomeroy, Mendenhall & Co.....	"	Steel.
838	Pomeroy, Mendenhall & Co.....	"	Blacksmiths' Materials.
868	Ritter, Hogan & Sowden	"	Saws.
869	Ritter, Hogan & Sowden	"	Patent Trowels.
870	Ritter, Hogan & Sowden	"	Patent Planing Knives.
871	Ritter, Hogan & Sowden	"	Moulding Knives.
1677	Ritter, Hogan & Sowden	"	Circular Saws.
887	Wm. Russel.....	"	Horseshoes.
949	Gaylord, Son & Co.....	"	Manf'd and Unmanf'd Iron.
972	Globe Rolling Mill Co...	"	Iron Wire and Steel.

CLASS 6, IRON, STEEL, SCALES, AND SAWS, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1030	Lawrence Iron Works Co.	Cincinnati, O.....	Bar and Hoop Iron.
1037	Kenton Iron Co.....	Newport, Ky.....	Pig Iron.
1059	Kenton Iron Co.....	".....	Pig Iron.
1053	Traber & Aubery	Cincinnati, O.....	Pig Iron Ore, and Pig Iron Beam.
1054	Traber & Aubery.....	".....	Iron Cotton Beam, and Warehouse Truck.
1107	Samuel Danks of Cin'ti Rail Mill Co.....	".....	Samples of Puddle Balls, Steel and Iron Blooms, and Ingots, Illustrating Revolving Puddling Furnace.
1108	Cincinnati Rail Mill Co.	".....	Railroad Bars of Homogenous Iron and Steel.
1243	Pennsylvania and Hunnewell Furnaces.....	.....	Pig Iron.
1254	Roane Iron Co.....	Rockwood, Tenn....	Pig Iron, Ore, Coal, etc. (Ex. only).
1256	Webster, Camp & Lane Machine Co.....	Akron, O.....	Finished Mill Keys for Machinery.
1290	Red Mountain Coal Co..	Shelby Co., Ala.....	Coal and Iron Ore.
1713	Lee & Stuckey.....	Cincinnati, O.....	Horseshoes (Ex. only).
1501	Charles Berckhemer.....	".....	Sheet Iron.
1502	Evans, Clifton & Co.....	".....	Wrought Iron Pipe.
1570	Shoenberger & Co.....	".....	Machine Made Horseshoes.
1575	E. Whitehead, Sr.....	".....	Iron Gutter Pipes.
1574	E. Whitehead, Sr.....	".....	Horseshoes.
1578	Tomotla Iron Works.....	Cherokee Co., N. C.	Iron and Iron Ore.
1616	M. Greenwood & Co.....	Cincinnati, O.....	Iron Well Curb.
1617	M. Greenwood & Co.....	".....	Patent Fence Butt with Screw Attachment.
1629	Samuel Williamson.....	".....	Lamp Posts and Sash Weights.
310	Globe Nail Co., E. R. Sawin	Boston, Mass.....	Horseshoe Nails.
1679	T. H. Brown.....	Cincinnati, O.....	Horseshoes (Ex. only).
1681	Kenton Furnace Co	Newport, Ky.....	Pig Iron.
736	L. Patterson.....	Cincinnati, O.....	Horseshoes.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Committee selected by the Industrial Exposition and Exhibitors as Judges, respectfully present their report of awards on articles in Class No. 6, embracing iron, steel, saws, and scales.

Your Committee do not consider it expedient to make second and third awards, but would respectfully state that there are many meritorious articles in Class No. 6 fully deserving

of, and entitled to, an *honorable mention* in the general report of the Exposition.

In forming their judgment your Committee has been governed, not only from careful personal inspection of the articles on exhibition, and their own practical experience, but from all the data and written certificates it could possibly obtain.

Awards of *First Premium* in Class No. 6:

No. 552. PARK BROTHER & Co., Black Diamond Steel Works, Pittsburg, Pennsylvania. Best display and assortment of tool cast steel; also of homogenous cast steel boiler plate, which will withstand a steam pressure of over six hundred pounds to the square inch, as certified to in writing by William H. Shock, chief engineer U. S. Navy, Washington; Messrs. Carroll & Snyder, Pittsburgh; and many other practical boiler inspectors and manufacturers. The size of boiler plate on exhibition is one hundred and fifty-one by forty-eight inches; tensile strength said to be ninety thousand pounds to the square inch.

No. 585. WOODROUGH & McPARLIN, Cincinnati, Ohio. Best display and assortment of saws, embracing circular, mulay, mill, cross-cut, hand, panel, rip, tenon, band, and every other variety of carpenter and machine saws; also for one fifty-two-inch circular saw in motion, cutting boards of ordinary size at the rate of one every twelve seconds.

No. 797. MORRIS & REITH, Cincinnati, Ohio. Best display of superior recut files.

No. 1617. M. GREENWOOD & Co., Cincinnati, Ohio. Best patent fence butt with screw attachment.

No. 380. KIMBALL & Co., Cincinnati, Ohio. Best exhibition of superior meat saws.

No. 869. RITTER, HOGAN & SOWDEN, Cincinnati, Ohio. On patent plastering trowels with adjustable handles; a very *meritorious* invention.

No. 870. RITTER, HOGAN & SOWDEN, Cincinnati, Ohio. On solid cast steel planing and moulding knives.

No. 838. POMEROY, MENDENHALL & Co., Cincinnati, Ohio. Best display and assortment of blacksmiths' tools and materials.

Nos. 594 and 597. FORSYTH SCALE Co., Rochester, New York. Best display of scales, embracing suspension, stock, hay wagon, railroad track, platform, counter, and drug; the bearing edges of all these scales said to be of best cast steel.

No. 972. GLOBE ROLLING MILL Co., Cincinnati, Ohio. Best assortment of superior iron wire; embracing bright, coppered, painted, annealed, fence, vineyard, half-oval or "agraffe" (this is the only mill in the United States manufacturing "agraffe" wire), used in making keys; also self-clinching fence staples.

No. 749. LICKING IRON WORKS, Cincinnati, Ohio. Best general display of iron, embracing a complete assortment of merchant bar, round, square, angle, bridge, boiler, sheet, girder, T, column, etc.

No. 750. LICKING IRON WORKS, Cincinnati, Ohio. Best steel chain, and refined iron chain.

No. 791. ADDY, HULL & Co., Cincinnati, Ohio. Best display and largest variety of pig iron, the products of nine different States; embracing all classes used in manufacturing, both for cast and wrought work.

No. 949. GAYLORD, SON & Co., Cincinnati, Ohio. On best wrought iron railroad and boat spikes.

No. 949. GAYLORD, SON & Co., Cincinnati, Ohio. On double-lipped railroad chairs; Messrs. Gaylord, Son & Co., claim to be the only manufacturers of these chairs west of Pittsburg.

No. 949. GAYLORD, SON & Co., Cincinnati, Ohio. On boiler plate and boiler rivets, manufactured from blooms made at their own mill, and being very uniform in quality.

No. 1502. EVANS, CLIFTON & Co., Cincinnati, Ohio. On wrought iron butt welded pipe.

No. 1578. TOMOTLA IRON WORKS, Cherokee County, North

Carolina. On rich specimen of iron ore, with bloom balled directly from the ore with charcoal, together with billet and variety of manufactured iron; all drawn from under the hammer, and designated as charcoal-hammered iron, and equal in quality to Swedish or Norway iron.

No. 1053. TRABER & AUBERY, Cincinnati, Ohio. On a very fine variety of iron ore and pig iron; together with chills made from same, particularly adapted for car-wheel purposes.

No. 737. COVINGTON RAIL MILL Co., Covington, Kentucky. On railroad iron. Sample presented appears to be very good, and the mode of pile particularly so, showing when rolled the position of refined iron on top of the bar; written certificates of the quality of this rail were shown from L. Williams, assistant superintendent C., H. and D. R. R.; E. Gest, Esq., and other practical railroad managers.

No. 1108. CINCINNATI RAIL MILL Co., Cincinnati, Ohio. On railroad bars of homogenous iron and steel, showing a good fracture and tenacity when bent cold.

No. 1107. SAMUEL DANKS, OF CINCINNATI RAIL MILL Co., Cincinnati, Ohio. On samples of puddled balls of steel and iron, weighing about one thousand four hundred pounds each, together with bloom and ingot prepared from such balls, manufactured by a new process of puddling invented by Mr. Danks, in which machinery performs the labor of agitating the mass of metal while puddling.

Your Committee made a careful personal examination of the *revolving furnace* while in process of manufacture, and report the following result:

Mr. Danks constructs a furnace operated by *blast*, with a cylinder prepared, and steam engine attached to revolve the same, through which the heat from the furnace passes; there is a movable bonnet or breeching which closes the opposite point of the cylinder, conveying the heat in passage from furnace through cylinder to chimney; cylinder and breeching are lined with fire material, and when in operation a certain amount of the lining was charged with a material composing

a glazing, to which we saw added six hundred pounds of pig iron, which was placed in the cylinder, heat produced until the iron was melted; then the cylinder was put in revolution until the cinder was separated from the fluid iron to some extent, the cylinder stopped and the cinder drawn off, after which it was again put in motion, under the *heavy heat*—the agitation produced in the material in furnace soon began to show the conversions of the iron which gradually progressed under the agitation. Within the space of about twenty minutes the entire mass was produced in the shape of a ball, and considered finished; bonnet was then removed, leaving the end of cylinder open, and ball taken from the furnace by workmen with large tongs (a glowing mass of iron) to a machine called a *squeezer*, with *horizontal hammer attached*, which, by its operation, produced a billet weighing six hundred and eighty-five pounds; which, reheated and placed under a ponderous hammer, produced a bloom weighing six hundred and fifty-eight pounds; although our billet shows an increase in weight over the metal charged, which arises in part from a loss in the lining material, which is composed principally of iron, we are led to believe there is a certain percentage of gain over the ordinary process of puddling; also that this process requires less labor in puddling iron, thereby rendering manufacturers more independent of their employes, and that it will produce iron at a greatly reduced cost.

No. 887. WM. RUSSELL, Cincinnati, Ohio. On best display of hand-made fancy horseshoes.

No. 1570. SHOENBERGER & Co., Cincinnati, Ohio. On best exhibition of machine-made horseshoes and toe calks.

No. 310. E. R. SAWIN, "Globe Nail Company," Boston, Massachusetts. On best exhibition of cold-pressed machine-made horseshoe nails.

No. 798. MARMET & Co., Cincinnati, Ohio. For best display good quality coke.

No. 1256. WEBSTER, CAMP & LANE MACHINE COMPANY, Akron, Ohio. For finished milled keys for machinery.

No. 972. GLOBE ROLLING MILL COMPANY, Cincinnati, Ohio. Premium on plow steel of superior finish.

Meritorious entries in Class No. 6, deserving an *Honorable Mention* in the general report of the Exposition:

No. 868. RITTER, HOGAN & SOWDEN, Cincinnati, Ohio. For handsome display and assortment of saws, embracing circular, mill, etc., of very superior finish; also for one fifty-two-inch circular saw in motion, cutting boards of ordinary size at the rate of one every twelve seconds.

No. 552. PARK, BROTHER & Co., Pittsburg, Pennsylvania. For one case of finished cast steel tools, manufactured from best "black diamond" cast steel.

No. 1616. M. GREENWOOD & Co., Cincinnati, Ohio. For handsome iron well curb.

No. 595. FORSYTH SCALE Co., Rochester, New York. For best samples of letter and manifest presses.

No. 1059. KENTON IRON COMPANY, Newport, Kentucky. For samples of stone coal pig iron for foundry purposes. This is the only blast furnace in the immediate vicinity of Cincinnati.

No. 1502. EVANS, CLIFTON & Co., Cincinnati, Ohio. For good display of small round and merchant bar iron.

No. 1054. TRABER & AUBERY, Cincinnati, Ohio. For best pig iron and ore scales; also cotton beams.

No. 1501. CHAS. BERCKHEMER, Cincinnati, Ohio. For handsome samples of perforated sheet iron.

No. 1243. PENN & HUNNEWELL FURNACE COMPANY, Pennsylvania. For specimens of good quality iron ore, pig iron, and coal.

No. 835. POMEROY, MENDENHALL & Co., Cincinnati, Ohio. For general display of merchant bar iron, cast steel, and one case finished cast steel tools, manufactured from Anderson, Cook & Co.'s best cast steel.

No. 972. GLOBE ROLLING MILL COMPANY, Cincinnati, Ohio. For general display of superior quality of refined charcoal and merchant bar iron.

No. 591. GEORGE S. MOORE & Co., Portsmouth, Ohio. For specimens of hot blast and Scotch pig iron for car wheels.

No. 949. GAYLORD, SON & Co., Cincinnati, Ohio. For general display of good merchant bar iron.

No. 1030. LAWRENCE IRON WORKS, Cincinnati, Ohio. For general display of merchant bar and hoop iron.

No. 1254. ROANE IRON COMPANY, Rockwood, Tennessee. For fine specimens of iron ore, pig iron, and soapstone.

No. 737. POST & Co., Cincinnati, Ohio. For specimens of solid steel railroad bars, imported from Wales.

No. 664. E. WHITEHEAD, JR., Cincinnati, Ohio. For fine display of hand-made fancy horseshoes.

No. 1666. THOS. LANGAN, Cincinnati, Ohio. For good display of hand-made horseshoes, suitable for city use.

No. 1290. RED MOUNTAIN COAL COMPANY, Alabama. For specimens of iron ore, coal, and coke.

No. 1629. S. WILLIAMSON, Cincinnati, Ohio. For display of improved iron lamp posts and sash weights.

No. 1575. E. WHITEHEAD, SR., Cincinnati, Ohio. For display of improved iron gutter pipes.

WM. J. LOWRY,
JABEZ REYNOLDS,
J. R. MAXWELL.

AWARDS.

Kimball & Co., Meat Saws.....	Diploma.
Park, Bro. & Co., Cast Steel.....	Large Silver Medal.
Woodrough & McParlin, Saws.....	Large Silver Medal.
Forsyth Scale Works, Scales.....	Large Silver Medal.
Covington Rail Mill Co., Railroad Iron.....	Diploma.
Licking Iron Works, Iron and Steel Chain.....	Large Silver Medal.
Addy, Hull & Co., Display of Pig Iron and Iron Ores.....	Large Silver Medal.
Morris & Reith, Recut Files.....	Diploma.
Marmet & Co., Coke.....	Diploma.
Pomeroy, Mendenhall & Co., Blacksmiths' Materials.....	Diploma.
Ritter, Hogan & Sowden, Trowels and Planing Knives.....	Diploma.
William Russell, Hand Made Horseshoes.....	Diploma.
Gaylord, Son & Co., Railroad Spikes and Chairs, Boiler Plates, and Rivets.....	Large Silver Medal.
Globe Rolling Mill Co., Iron Wire.....	Large Silver Medal.
Traber & Aubery, Display of Pig Iron and Iron Ores.....	Diploma.
Kenton Iron Co., Pig Iron.....	Diploma.
Cincinnati Rail Mill Co., Homogenous Iron and Steel Rail- road Bars.....	Large Silver Medal.
Roane Iron Co., Pig Iron Ore and Coal.....	Diploma.
Webster, Camp & Lane Machine Co., Finished Mill Keys.....	Diploma.
Charles Berckhemer, Sheet Iron.....	Diploma.
Evans, Clifton & Co., Wrought Iron Pipe.....	Large Silver Medal.
Shoenberger & Co., Machine Made Horseshoes.....	Diploma.
Tomotla Iron Works, Charcoal Hammered Iron.....	Diploma.
M. Greenwood & Co., Iron Well Curb and Fence Butt.....	Diploma.
E. R. Sawin, Globe Nail Co., Horseshoe Nails.....	Diploma.
Samuel Danks, Revolving Puddling Furnace.....	Gold Medal.

CLASS 7.

Boots, Shoes, and Leather, Rubber Goods, Leather Belting,
Leather Hose.

JUDGES:

A. HOLDRIDGE.

WM. McCANN.

R. WOOLLEY.

No.	Exhibitor.	Residence.	Articles Exhibited.
312	Phipps, O'Connell & Co..	Cincinnati, O.....	Men's Kip Hunting Boots.
313	Phipps, O'Connell & Co..	"	Rustic Kip Boots.
314	Phipps, O'Connell & Co..	"	Gent's Half Boots, Plain Tops.
315	Phipps, O'Connell & Co..	"	Kip Tap Soled Boots.
316	Phipps, O'Connell & Co..	"	French Kid Boots.
317	Phipps, O'Connell & Co..	"	Fine Calf Boots.
318	Phipps, O'Connell & Co..	"	Calf Boots.
319	Phipps, O'Connell & Co..	"	Hob Nailed U. L. Boots.
320	Phipps, O'Connell & Co..	"	U. L. Kip Brogans.
354	Crawford & Coffman.....	Dayton, O.	Shoe Lasts, Boot Trees, etc.
416	Bart & Hickcox.....	Cincinnati, O.....	Rubber Belting, Spring and Para Rubber.
417	Bart & Hickcox.....	"	Emery Wheel Rubber Springs and Floor Matting.
418	Bart & Hickcox.....	"	Rubber Pitcher and Mats.
419	Bart & Hickcox.....	"	Rubber Boots and Bucket.
420	Bart & Hickcox.....	"	Rubber Spittoon.
421	Bart & Hickcox.....	"	Rubber Packing and Sheet Rubber.
422	Bart & Hickcox.....	"	Rubber Hose and Tubing.
423	Bart & Hickcox.....	"	Rubber Goods and Jewelry.
437	Jas. Thomson & Son.....	"	Leather Belting.
497	Bradford & Sharp.....	"	Leather and Gum Belting and Hose and Lace Leather.
459	Elsas & Pritz.....	"	Leather.
527	C. A. Church.....	New Berlin, N. Y....	Spring Leather.
613	William Lee.....	Cincinnati, O.....	Boots and Shoes.
638	John Stifel & Bro.....	"	Calf Skins and Linings.
639	Thomas Hennessy.....	"	Boots and Shoes.
668	Hulsemann Bros.....	"	Manufactured Sheep Skins.
677	J. W. Lawson.....	"	Ladies' Fine Shoes.
708	James Scallan & Co.....	"	Boots and Shoes.
820	Rudolph & Potter.....	"	Ladies' Hand-made Shoes.
922	F. P. Haldy.....	"	Boots and Shoes.
952	F. Kilsheimer.....	"	Boots and Shoes.
965	J. S. Howe.	"	Boots and Shoes.
1044	J. S. Thornton	"	Deer and Sheep Skins.
1114	Michael Eckert.....	"	Leather.
1122	McCollum & Co	"	Misses' and Ladies' Machine Sewed Shoes.
1154	Stribley & Co.....	"	Ladies' Machine-sewed Shoes.

CLASS 7, BOOTS, SHOES, AND LEATHER, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1177	John Latsch.....	Cincinnati, O.....	Lasts.
1207	J. F. Forbus & Co.....	"	Sheep Skins.
1215	G. R. Martin & Sons.....	"	Fair Leather.
1240	Bell, Rifenerick & Co..	"	Ladies', Misses' and Children's Shoes.
1541	M. Greenwood & Co.....	"	Leather Belting.
1550	Ventilating Water-proof Shoe Co.....	Boston, Mass.....	[Boots. Water-proof Cloth and Cloth

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We, the Judges appointed to examine into the merits of Articles exhibited in Class 7, respectfully submit the following report:

HARNESS LEATHER—three samples from different houses:

No. 1215. Very good. *First.*

No. 1114. *Second.*

No. 459. *Third.*

SOLE LEATHER—two samples from different firms:

No. 459. Extra good. *First.*

No. 1114. *Second.*

LEATHER—samples from only one firm:

No. 1215. Skirting, fair line leather, fair bridle, bag leather, calf seating, and black bridle. All good. *First.* Hog seating and buff. Not first class. *Second.*

WAX CALF SKINS—two firms represented:

No. 1114. *First.*

No. 638. *Second.*

TOPPING AND LINING SKINS—three firms represented:

No. 1207. Fine skins, well finished. Good collars, very nice. *First.*

No. 668. *Second.*

No. 638. *Third.*

DRESSED DEER SKINS:

No. 1044. One lot, good, nice skins, and well finished.

LASTS, BOOT TREES, ETC.—two firms represented:

No. 354. A nice case, machine made, very good.

No. 1177. A lot of hand-made lasts, fair or medium.

RUBBER GOODS—one firm represented:

Nos. 416 to 423. A nice case of fine rubber goods, boots, coats, piano covers, etc.

LEATHER BELTING—three firms represented:

Nos. 497 and 437. We have examined the belting of both these numbers, and find them so good, and so near perfection, and so near equal—made of the best of leather—that if there is any difference we fail to see it; and recommend both to your favorable consideration.

No. 1541. Second quality of belting.

MEN'S FINE BOOTS AND SHOES—four firms represented:

No. 768. Extra fine work. First class. *First.*

No. 613. Extra fine work. First class. *First.*

These two very fine cases of boots and shoes have been made so well, with so much care and skill in workmanship, style and finish, of well selected stock, and in every thing that is necessary for first class boots, that we have never seen excelled and seldom equalled. We recommend the General Committee to deal very liberally in their awarding premiums for superior merit.

No. 952. We class *second*.

The excelsior patent shoe favorably recommended.

No. 639. We class *second*.

LADIES' HAND-MADE SHOES—three firms represented:

No. 677. A nice case of shoes. *First.*

No. 922. *Second.*

No. 820. A case of ladies' shoes.]

LADIES' MACHINE-SEWED SHOES—three firms represented:

No. 1154. A superior case of machine work, that we highly recommend to your favorable consideration. *First.*

No. 1122. *Second.*

No. 1240. A case of ladies', misses', and child's shoes.

MEN'S PEGGED BOOTS AND SHOES—one firm represented:
Nos. 312 to 320. Good, serviceable work.

No. 965. An assortment of boots and shoes.

No. 1550. We recommend the process for making lasting or cloth water-proof for shoe purposes, provided it will allow perspiration to pass off.

REMARKS.

In regard to where we have placed two or more articles as *first or second*, we think they deserve equal credit. If there is any preference we give it to the first number quoted under the head of the different articles.

We call your particular attention to, and highly recommend, Nos. 768, 613, and 820. Shoemaking is growing very rapidly in our city, and in a few years we shall be able to supply a large part of this western country with shoes without going to Boston. And if there is any thing more necessary to the comfort or happiness of man, from youth to old age, in our grand Exhibition, we have failed to see it in our many visits to the great Fair; and if you ask your numerous visitors if there is any thing they would not rather do without than shoes.

It is in your power to encourage that useful branch of trade by giving liberal rewards for superior merit. It encourages others to follow and try to excel, and will greatly increase the number of exhibitors next year.

Respectfully,

AMI HOLDRIDGE,
WILLIAM McCANN,
RICHARD WOOLLEY.

AWARDS.

Phipps, O'Connell & Co., Men's Pegged Boots and Shoes.....	<i>Large Silver Medal.</i>
Crawford & Coffman, Shoe Lasts, Boot Trees, etc.....	<i>Diploma.</i>
Bart & Hickcox, Rubber Goods.....	<i>Diploma.</i>
James Thomson & Son, Leather Belting.....	<i>Large Silver Medal.</i>
Bradford & Sharp, Lace Leather, Leather and Gum Belting..	<i>Large Silver Medal.</i>
Elsas & Pritz, Sole Leather.....	<i>Large Silver Medal.</i>
Wm. Lee, Boots and Shoes.....	<i>Large Silver Medal.</i>
John Stifel & Bro., Calf Skins and Linings	<i>Diploma.</i>
Thos. Hennessy, Boots and Shoes	<i>Diploma.</i>
Hulsemann Bros., Manufactured Sheep Skins.....	<i>Diploma.</i>
J. W. Lawson, Ladies' Fine Hand-made Shoes.....	<i>Large Silver Medal.</i>
James Scallan & Co., Boots and Shoes.....	<i>Large Silver Medal.</i>
Rudolph & Potter, Ladies' Hand-made Shoes.....	<i>Diploma.</i>
F. P. Haldy, Ladies' Hand-made Shoes.....	<i>Diploma.</i>
F. Kilsheimer, Boots and Shoes.....	<i>Diploma.</i>
J. S. Thornton, Dressed Deer Skins.....	<i>Diploma.</i>
Michael Eckert, Leather.....	<i>Small Silver Medal.</i>
McCollum & Co., Ladies' and Misses' Machine-sewed Shoes..	<i>Large Silver Medal.</i>
Stribley & Co., Ladies' Machine-sewed Shoes.....	<i>Large Silver Medal.</i>
J. F. Forbus & Co., Sheep Skins.....	<i>Large Silver Medal.</i>
G. R. Martin & Sons, Fair Leather.....	<i>Large Silver Medal.</i>
Bell, Rifenerick & Co., Ladies', Misses', and Children's Machine- made Shoes.....	<i>Diploma.</i>
Ventilating Water-proof Shoe Co., Water-proof Cloth Boots and Cloth..	<i>Diploma.</i>

CLASS 8.

Carriages, Harness, and Trunks.

JUDGES:

JOHN F. WILTSEE.

THEODORE SALORGNE.

J. F. MAYER.

No.	Exhibitor.	Residence.	Articles Exhibited.
387	Zerbe, Perine & Co.....	Cincinnati, O.....	Safety Socket for Whips.
408	Buschle & Wuest.....	"	Felloes, Spokes, and Hubs.
409	Buschle & Wuest.....	"	Shafts.
440	J. McKibben.....	Lima, O.....	Safety Bridle with Rein.
441	J. McKibben	"	Safety Bridle Check Gag Runner.
442	J. McKibben	"	Combined Halter and Bridle.
443	J. McKibben	"	Harness.
461	Gustav Lautenschlager...	Cincinnati, O....	1 Hobby Horse.
474	Geo. Decker.....	New York City.....	Cane Whips.
499	Hatheral & Co.....	Cincinnati, O.....	Saddle Trees. [vice.
515	Dr. A. Schmitt.....	"	Patent Horse Detaching De-
535	Joseph Trotman.....	"	Saddle Trees.
590	Longenbrunner & Co.....	"	Horse Collars.
616	Snellbaker & Deloras...	"	Patent Wagon Brakes.
623	Chas. Dold.....	Mason, O.....	Wagon Lock.
671	Warner, Peck & Co.....	Springfield, Mass....	Child's Carriage.
686	Geo. T. Cooke.....	Cincinnati, O.....	Children's Carriages, Cradles and Jumpers.
691	Geo. C. Miller & Sons....	"	Barouche, Landaulette, and Top Buggy.
1634	Geo. C. Miller & Sons....	"	Clarence Coach, Coupe, Rock- away, and Road Wagon.
712	B. Bruce & Co.....	"	Summer Brett and Cabriolet.
713	B. Bruce & Co.....	"	Four-seat Park Phaeton.
717	J. W. Gosling.....	"	Clarence Coach and Park Phaeton. [Buggy.
718	J. W. Gosling.....	"	One-horse Barouche and Top
1225	J. W. Gosling.....	"	Basket & Physic's' Phaetons.
810	P. J. Marqua & Co.....	"	Children's Carriages and Hobby Horses.
841	M. D. Flynt.....	"	Trunks, Bags, Valises, and Shawl Straps.
843	Leonard & Cook.....	"	Trunks, Bags, Valises, and Shawl Straps. [Buggy
879	Albrecht & Nieman... ..	"	Barouche and Shifting Top
884	American Wagon Works	"	Farm and Spring Wagon and Wheelbarrows.
903	John Curtis.....	"	Top and Open Buggies and Skeleton Wagons.
904	John Curtis.....	"	Landau and Sulky.

CLASS 8.—CARRIAGES, HARNESS, AND TRUNKS.—CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1654	John Curtis.....	Cincinnati, O.....	Brett Carriage.
946	Charles Behlen.....	".....	Platform Barouche and Six-seat Clarence.
910	Royer Wheel Co.....	".....	Wagon, Carriage, and Buggy Wheels. [Shafts.
951	Royer Wheel Co.....	".....	Hubs, Spokes, Felloes, and
957	Hale & Murdock.....	Columbus, Miss.....	Saddle Cloths. [Wheels.
1004	Cincinnati Forging Co...	Cincinnati, O.....	Buggy and Wagon Fifth
1005	Rice & Co.....	Springfield, O.....	Child's Carriage.
1034	French Bros.....	Nashville, Tenn.....	Spokes, Felloes, and Wagon Materials.
1046	Kinker & Co.....	Cincinnati, O.....	Top Buggy.
1141	A. E. Smith.....	Bronxville, N. Y.....	Steel Axles (Ex. only).
1155	Geo. B. Ellard.....	Cincinnati, O.....	Sleighs and Sleds.
1159	Union Omnibus and Wagon Manf. Co....	".....	[Wagon. Omnibus and Platform Spring
1196	Joseph Clare & Co.....	Bethel, O.....	Saddle Trees.
1224	DeCamp, Perkins & Le-voy.....	Cincinnati, O.....	Saddles and Harness.
1233	John Roberts.....	".....	Family Carriage.
1247	Joseph Seifrit.....	".....	Platform Spring Wagon.
1293	John Reid.....	".....	Saddlery and Harness.
1297	Jung & Kreutz.....	".....	Beer Wagon.
1545	Samuel J. Spray.....	Cleveland, O.....	Wagon and Sleigh Stake.
1639	Guinnip, Short & Co.....	Danville, Ill.....	Wooden Horse Collars and Collar and Hame Combin'd.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—In making up decisions on the carriage work in the class assigned to us, we found it necessary to place in competition the different kinds of vehicles on exhibition as follows, and mark the different degrees of merit, with some notes relating thereto:

TOP BUGGIES.

No. 691. GEO. C. MILLER & SONS.

No. 718. J. W. GOSLING. *First degree of merit.*

No. 903. JOHN CURTIS. *Second degree of merit.*

No. 879. ALBRECHT & NIEMAN. *Third degree of merit.*

No. 712. B. BRUCE & Co. *Honorable mention.*

No. 1046. KINKER & Co.

BAROUCHES (THREE SPRINGS).

- No. 718. J. W. GOSLING. *First degree of merit.*
No. 879. ALBRECHT & NIEMAN. *Second degree of merit.*
No. 713. B. BRUCE & Co. *Third degree of merit.*

PLATFORM BAROUCHES.

- No. 946. C. BEHLEN. *First degree of merit.*
No. 691. GEO. C. MILLER & SONS. *Second degree of merit.*

PARK PHÆTON, OR SIX-SEAT BRETT.

- No. 1634. JOHN CURTIS. *First degree of merit.*
No. 717. J. W. GOSLING. *Second degree of merit.*
No. 713. B. BRUCE & Co. *Third degree of merit.*

SIX-SEAT CLARENCE FRONT (BRETT).

- No. 1225. J. W. GOSLING. *First degree of merit.*
No. 712. B. BRUCE & Co. *Second degree of merit.*
No. 946. C. BEHLEN. *Third degree of merit.*

OPEN BUGGIES.

- No. 903. J. CURTIS. *First degree of merit.*
No. 1624. GEO. C. MILLER & SONS. *Second degree of merit.*

BASKET PHÆTON.

- No. 1225. J. W. GOSLING. Very neat work. No competition.

FOUR-SEAT ROCKAWAY.

- No. 713. B. BRUCE & Co. *First degree of merit.*
No. 1634. GEO. C. MILLER & SONS. *Second degree of merit.*

LANDAU.

- No. 904. J. CURTIS. A very superior piece of work in every particular. No competition.

LANDAULETTE.

- No. 691. GEO. C. MILLER & SONS. A very good job of carriage work. No competition.

CLARENCE COACH.

No. 717. J. W. GOSLING. *First degree of merit.*

No. 1634. GEO. C. MILLER & SONS. *Second degree of merit.*

Both of these last-named are worthy of the highest commendation, and very difficult to determine which excels; but, after the closest scrutiny and most careful examination, your Committee are unanimous in the above decision.

J. CURTIS' skeleton wagon and sulky are specimens of first-class workmanship.

No. 1159. UNION OMNIBUS AND WAGON MANUFACTURING COMPANY, one omnibus, only one on exhibition. Ordinary work.

No. 884. AMERICAN WAGON WORKS, one farm wagon. Good work and good material. *First degree of merit.* Also, a spring wagon and two wheelbarrows. Well made.

No. 910. ROYER WHEEL COMPANY, wagon, carriage and buggy wheels. Best on exhibition.

No. 951. ROYER WHEEL COMPANY, hubs, spokes, felloes, and shafts. Best on exhibition.

No. 1034. FRENCH BROS., spokes, felloes, and wagon materials. A good selection of timber in them.

No. 1247. JOS. SEIFERT, a beer wagon.

No. 1294. P. JUNG & H. KREUTZ, beer wagon. Both these wagons are good for strength, but not much for mechanical excellence.

No. 1004. CINCINNATI FORGING COMPANY, buggy and wagon fifth wheels. A good job of forging.

No. 1141. ALFRED E. SMITH, steel axle. Commended by those who use them.

No. 515. DR. ANTHON SCHMITT, patented detaching device. Have never seen any used.

The display of carriages is very superior, and excels any thing of the kind ever made in this city, and we doubt if it could be equaled elsewhere. Nearly all of the exhibitors present

such good work for our inspection that it is with great difficulty we determine who excels; but having endeavored to discharge our duties conscientiously, we leave the matter in your hands, trusting to the gentlemanly forbearance of the exhibitors.

No. 843. LEONARD & COOK, Saratoga trunk. *First degree of merit* for workmanship and strength. Sole leather trunk. *Second degree of merit.* Valises. Worthy of *honorable mention.*

No. 841. M. P. FLYNT, sole leather trunk. *First degree of merit* for superior work and strength. Saratoga trunk. *Second degree of merit.* This has some points of special excellence. Valises. *Honorable mention.*

No. 1648. M. A. MCGUIRE, sole leather trunk. *Third degree of merit.* Saratoga trunk. Fair. *Third degree of merit.*

M. P. FLYNT and Messrs. LEONARD & COOK exhibit a handsome variety of valises, satchels, and other goods in their line, of superior excellence.

No. 590. LONGENBRUNER & Co., horse collars (no competition), patent leather, hair, and hog skin collars of superior quality and workmanship.

No. 1639. GUINNIP, SHORT & Co. exhibit a wooden horse collar and hame combined; patented. Represented to be of such utility as to insure draft horses from galling by friction on the shoulders. Of its success as claimed, your Committee have had no practical test.

No. 1293. JOHN REID. A handsome display of saddles, harness pads, bridles, horse covers, and harness mountings. Fine quality.

No. 1224. DECAMP, PERKINS & LEVOY. Very fine specimens of machine made harness, and a great variety of riding saddles. The best of the kind.

No. 1196. JOS. CLARE & Co. Rawhide covered saddle trees. Second quality in competition.

No. 499. HATHERAL & Co. exhibit rawhide covered saddle trees. First quality. Extra fine quality, as to utility and

workmanship; also, canvas covered ladies' saddle trees. Second quality.

No. 535. JOSEPH TROTMAN exhibits canvas covered ladies' saddle trees. First quality. Also, men's saddle trees and race saddle trees. The best on exhibition.

No. 442. J. McKIBBEN. "Patented bridle bit." We are unable to give an opinion as to practicability.

No. 686. GEORGE T. COOKE. Child's carriage, cradle and baby-jumper combined. We think it will fulfill the claims of the inventor.

No. 810. P. J. MARQUA & Co. The greatest variety of children's carriages, perambulators, sleds, hobby horses, wheelbarrows, etc., all well adapted to the purpose intended, and deserving especial mention. Children can lie down in his carriages, which is not always provided for in making these useful articles.

No. 671. WARNER, PECK & Co. Child's perambulator. Excellent workmanship—best on exhibition. The body has a seat, but a child can not lie down in it very well.

No. 1005. RICE & Co. A child's carriage. Fair specimen.

No. 1155. GEORGE B. ELLARD. Children's sleighs and sleds. No competition. Made in excellent style and very superior workmanship.

No. 1545. SAMUEL J. SPRAY. Wagon and sleigh stake.

No. 957. HALE & MURDOCK. Saddle cloth, first quality.

No. 702. LANE & Co. Saddle cloths. Second quality.

No. 461. GUSTAV LAUTENSCHLAGER. A hobby horse. This horse has an ingenious device in the rockers, by which it is thrown forward by the rocking motion and thus becomes a traveler, "not fast," but will, no doubt, satisfy the ambition of the juveniles.

No. 387. ZERBE, PERINE & Co., a "safety whip socket." This has a combination lock by which the whip is securely held, and can only be released by one who has a knowledge of the combination.

No. 474. GEORGE DECKER. Cane whips. This is certainly a very ingenious and useful contrivance; being a whip in sec-

tions, which when closed, becomes a very neat walking cane. Those who have had whips taken at parties or public gatherings will appreciate this invention.

No. 616. SNELLBAKER & DELORAS. Patent wagon brakes. These are models in brass. The principle seems feasible.

No. 623. CHARLES DOLD. One wagon lock (brake). There are better brakes in use, but for small vehicles this last mentioned will answer very well.

Respectfully,

JOHN F. WILTSEE,
THEODORE SALORGNE,
J. F. MAYER.

AWARDS.

Zerbe, Perine & Co., Safety Socket for Whips.....	<i>Diploma.</i>
George Decker, Cane Whips.....	<i>Diploma.</i>
Hatheral & Co., Rawhide Covered Saddle Trees.....	<i>Small Silver Medal.</i>
Joseph Trotman, Canvas Covered Saddle Trees.....	<i>Small Silver Medal.</i>
Longenbrunner & Co., Horse Collars..	<i>Diploma.</i>
Warner, Peck & Co., Child's Carriage..	<i>Small Silver Medal.</i>
George T. Cooke, Children's Carriages, Cradles, and Jumpers.	<i>Small Silver Medal.</i>
P. J. Marqua & Co., Children's Carriages and Hobby Horses.	<i>Small Silver Medal.</i>
M. D. Flynt, Trunks, Bags, Valises, etc.....	<i>Small Silver Medal.</i>
John Reid, Saddlery and Harness.....	<i>Small Silver Medal.</i>
Gustav Lautenschlager, Hobby Horse.....	<i>Diploma.</i>
J. W. Gosling, Carriages	<i>Gold Medal.</i>
John Curtis, Carriages.....	<i>Gold Medal.</i>
Charles Behlen, Carriages.....	<i>Large Silver Medal.</i>
B. Bruce & Co., Carriages.....	<i>Large Silver Medal.</i>
George C. Miller & Sons, Carriages.....	<i>Small Silver Medal.</i>
Albrecht & Nieman, Carriages.....	<i>Small Silver Medal.</i>
Kinker & Co., Top Buggy.....	<i>Diploma.</i>
Leonard & Cook, Trunks, Valises, Shawl Straps, etc.....	<i>Small Silver Medal.</i>
American Wagon Works, Farm Wagon.....	<i>Small Silver Medal.</i>
Royer Wheel Co., Wagon, Carriage, and Buggy Wheels, Hubs, Felloes, etc.....	<i>Small Silver Medal.</i>
Hale & Murdock, Saddle Cloths.....	<i>Diploma.</i>
Cincinnati Forging Co., Fifth Wheels.....	<i>Diploma.</i>
Rice & Co., Child's Carriage.....	<i>Diploma.</i>
French Bros., Spokes, Felloes, and Wagon Materials.....	<i>Diploma.</i>
George B. Ellard, Sleighs and Sleds.....	<i>Diploma.</i>
Union Omnibus and Wagon Manufacturing Co., Omnibus.....	<i>Diploma.</i>
Joseph Clare & Co., Saddle Trees.....	<i>Diploma.</i>
DeCamp, Perkins & Levoy, Saddles and Harness.	<i>Small Silver Medal.</i>

CLASS 9.

Tobacco, Manufactured and Unmanufactured.

JUDGES:

J. B. CARPENTER.

A. NULSEN.

J. WEIGHELL.

No.	Exhibitor.	Residence.	Articles Exhibited.
309	Fisher & Craig	Covington, Ky.....	Manufactured Tobacco.
362	Louis Harmyer.....	Cincinnati, O.....	Smoking Tobacco.
363	Louis Harmyer.....	"	Snuff and Cigarettes.
378	W. H. Gedge.....	Covington, Ky.....	Plug Tobacco.
396	L. W. Fechheimer & Co..	Cincinnati, O.....	Cigars and Indian Figure.
415	D. C. King & Co.....	"	Tobacco Bucket.
466	Stickney & Tanner.....	"	Tobacco Boxes.
545	S. Lowenthal & Co.....	"	Manufactured Tobacco.
556	C. F. Schroeder & Bro...	"	Manufactured Tobacco and Cigars.
653	Wilson, Sorg & Co.....	"	Manufactured Tobacco.
661	Barber & Stout.....	"	Manufactured and Unmanufactured Tobacco.
672	Mitchell & Co.....	"	Tobacco.
673	Mitchell & Co.....	"	Old Congress Tobacco.
674	Mitchell & Co.....	"	Old Congress Tobacco.
675	Mitchell & Co.....	"	Continental Tobacco.
1117	Mitchell & Co.....	"	Old Congress Tobacco.
1118	Mitchell & Co.....	"	Continental Tobacco.
1244	Mitchell & Co.....	"	Old Congress Tobacco.
683	Perry Ellis.....	"	Manufactured Tobacco.
689	N. Harris & Co	"	Fine Cut Chewing Tobacco.
723	J. D. Hathaway.....	"	Cigars (Ex. only).
755	Spence Bros. & Co.....	"	Fine Cut Chewing Tobacco.
765	M. Haas.....	"	Cigars.
783	Cox, Crawford & Co.....	Covington, Ky.....	Leaf Tobacco.
804	R. M. Bishop & Co.....	Cincinnati, O.....	Snuffs—Maccoboy & Scotch.
805	R. M. Bishop & Co.....	"	Chewing Tobacco—Challenge and Century.
806	R. M. Bishop & Co.....	"	Smoking Tobacco — Yacht Club.
1688	R. M. Bishop & Co.....	"	Plug Tobacco—Lorillard & Co.'s.
833	Chas. Bodman & Co.....	"	Leaf Tobacco.
936	J. A. P. Gloire & Co.....	Covington, Ky.....	Manufactured Tobacco.
940	Frank. E. Kaiser.....	Cincinnati, O.....	Cigars and Tobacco.
1036	Brown & Seiter.....	"	Manufactured Tobacco.
1052	J. T. Sullivan & Bro.....	"	Leaf Tobacco.
1100	Markley & Bro.....	"	Leaf Tobacco. [bacco.
1115	Seiter Bros.	"	Fine Cut and Smoking To-
1514	McBeth, Shaffer & Co ...	Hamilton, O.....	Tobacco Moulds.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We, the undersigned, a Committee appointed to consider and report on the qualities and merits of articles in Class 9, report as follows:

FINE CUT CHEWING TOBACCO.

- No. 689. N. HARRIS & Co. *First degree of merit.*
 No. 1115. SEITER BROTHERS. *Second degree of merit.*
 No. 673. MITCHELL & Co. *Third degree of merit.*

BRIGHT POUND-PLUG CHEWING TOBACCO.

- No. 653. WILSON, SORG & Co. *First degree of merit.*
 No. 683. P. ELLIS *Second degree of merit.*
 No. 309. FISHER & CRAIG. *Third degree of merit.*

MAHOGANY-COLORED POUND-LUMP CHEWING TOBACCO.

- No. 653. WILSON, SORG & Co. *First degree of merit.*
 No. 683. P. ELLIS. *Second degree of merit.*
 No. 1036. BROWN & SEITER. *Third degree of merit.*

BLACK PLUG CHEWING TOBACCO.

- No. 653. WILSON, SORG & Co. *First degree of merit.*
 No. 1036. BROWN & SEITER. *Second degree of merit.*
 No. 683. P. ELLIS. *Third degree of merit.*

We desire to say that every sample of manufactured tobacco on exhibition showed beautiful workmanship and excellent chewing qualities, and, probably, a finer display was never made.

LEAF TOBACCO.

- No. 783. COX, CRAWFORD & Co. Two samples cutting-leaf. *Fair quality.* One sample manufacturing leaf tobacco. *Fair quality.*

- No. 1052. J. T. SULLIVAN & BROS. One sample of very fine leaf tobacco.

No. 1100. MARKLEY & BRO. One hogshead of very good leaf tobacco.

CIGARS.

No. 556. C. F. SCHROEDER & BRO. *First degree of merit.*

No. 545. S. LOWENTHAL & CO. *Second degree of merit.*

No. 396. L. W. FECHHEIMER & CO. *Third degree of merit.*

The cigars are beautifully manufactured, and possess great excellence.

SMOKING TOBACCO.

In this branch of manufacture the display was very beautiful; of every hue and quality, and of equal merit.

SNUFFS.

Snuffs were exhibited in great variety and put up in various commercial styles.

It is to be regretted that many of the older dealers in both leaf tobacco and its manufacture were not represented in this Exposition, as it would have given to it increased interest. Our tobacco interests, both in the raw material and manufactured, have quadrupled within the last five years, and are still increasing; and we have now one of the largest and most varied markets in the country for leaf tobacco and all its products.

JOHN T. WEIGHELL,
J. B. CARPENTER,
A. NULSEN.

SUPPLEMENTARY REPORT

GENTLEMEN:—In our examination of cigars our decision was made for style of manufacture, but for fine quality and flavor we consider L. W. Fechheimer & Co. entitled to award.

J. B. CARPENTER,
JOHN T. WEIGHELL,
A. NULSEN.

AWARDS.

Louis Harmyer, Snuff.....	Diploma.
L. W. Fechheimer & Co., Havana Cigars (Quality and Flavor).....	Diploma.
S. Lowenthal & Co., Cigars.....	Diploma.
C. F. Schroeder & Bro., Cigars.....	Large Silver Medal.
Wilson, Sorg & Co., Plug Tobacco.....	Large Silver Medal.
Barber & Stout, Display of Tobacco...	Diploma.
Mitchell & Co., Display of Tobacco.....	Diploma.
N. Harris & Co., Fine Cut Chewing Tobacco.....	Small Silver Medal.
Cox, Crawford & Co., Leaf Tobacco.....	Small Silver Medal.
J. T. Sullivan & Bro., Leaf Tobacco.....	Large Silver Medal.
Markley & Bro., per C. Bodman & Co., Leaf Tobacco.....	Diploma.
Stickney & Tanner, Tobacco Boxes	Diploma.

CLASS 10.

Watches, Clocks, Silver and Plated Ware, Philosophical Apparatus, Surgical Instruments and Dentistry, Military Goods and Fire-Arms.

JUDGES:

W. M. DAVIS.

PROF. E. S. WAYNE.

JAMES POWELL.

No.	Exhibitor.	Residence.	Articles Exhibited.
334	S. S. White.....	Philadelphia, Pa.....	Artificial Teeth.
335	S. S. White.....	"	Dental Instruments.
336	S. S. White.....	"	Corundum Wheels, Files, and Slabs.
337	James Leslie.....	Cincinnati, O.....	Dentists' Gold, Silver, and Tin Foil.
359	Wm. Schubeler.....	"	Artificial Hair Work and Jewelry.
361	H. P. Diehl & Co.....	"	Samples of Fireworks.
377	Duhme & Co.....	"	Silver Ware and Fine Clock.
384	Zerbe, Perine & Co.....	"	Attachment for Fire-Arms.
431	T. F. Randolph.....	"	Mathematical Instruments.
432	T. F. Randolph.....	"	Scroll Lightning Conductors.
433	T. F. Randolph.....	"	Models of Machinery.
434	T. F. Randolph.....	"	Thermometers & Barometers.
462	Dr. M. L. Nardyz.....	"	Wax Figures.
493	B. Kittredge & Co.....	"	Military Goods & Fire-Arms.
523	Geo. Watt & Co.....	"	Dental Goods.
524	James McFarland.....	"	Uncle Sam's Needle Gun.
544	Thos. Fugate.....	"	Stereoscopes.
547	Drs. Wardle & Willis.....	"	Artificial Teeth.
635	Henry Varwig.....	"	Silver Plated Ware.
640	Henry Twitchell.....	"	Acidometers.
941	Henry Twitchell.....	"	Hydrometers.
648	S. N. Marsh, Corliss & Co.	"	Trusses and Apparatus.
679	John A. Mohlenhoff.....	"	Clocks (Exhibition only).
705	Wm. Beck.....	"	Regalias and Fancy Costumes.
761	Geo. Watt & Co.....	"	Dentists' Forceps, Pluggers, and Excavers.
813	John C. Huntington & Co.	"	China and Silver Ware.
828	Dr. A. O. Forsberg.....	"	Artificial Limbs.
829	Dr. A. O. Forsberg.....	"	Patent Radical Cure and other Trusses.
830	Dr. A. O. Forsberg... ..	"	Instruments for Deformities.
831	Dr. A. O. Forsberg... ..	"	Supporter for Ladies.
832	Dr. A. O. Forsberg.....	"	Crutches.
833	John Holland.....	"	Gold Pens.
847	Kohl & Tyler.....	"	Exhibition Box.
848	Kohl & Tyler	"	Parlor Regulation Scopes.

CLASS 10—WATCHES, CLOCKS, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
849	Kohl & Tyler.....	Cincinnati, O.....	Parlor Scopes.
850	Kohl & Tyler.....	"	Home Scopes.
851	Kohl & Tyler.....	"	Retouching Frame.
852	Kohl & Tyler.....	"	Stereoscopic Views.
853	Kohl & Tyler.....	"	Graphoscope and Views.
907	L. Robertson.....	"	Dental Instruments, Impres- sion Cup, and Mechanical Dentistry.
908	L. Robertson.....	"	Operative Dentistry.
968	Dr. E. B. Fairchild.....	Covington, Ky.....	Set of Teeth with Aluminum Base and Aluminum Solder.
1018	A. D. Smith & Co.....	Cincinnati, O.....	Regulator Clock.
1020	T. J. Harcourt.....	"	Dentistry and Miniature En- gine.
1079	H. R. Smith & Co.....	"	Watches, Watch Movements, and Silver Ware.
1082	W. Voss.....	"	Alarm Clock.
1104	D. Kinsey.....	"	Silver Ware.
1138	Charles T. Manning.....	"	Masonic Supplies.
1210	John D. Caldwell.....	"	Masonic Goods.
1213	Wm. Autenrieth.....	"	Surgical Instruments.
1220	Manning, Robinson & Co	"	Silver Plated Ware.
1521	Geo. W. Bishop.....	"	Silver Bricks (Exhib. only).
775	Madame Zwick.....	"	Hair Work and Jewelry, Braids, Wigs, etc.
1508	Mrs. D. Zehnder.....	"	Hair Jewelry.
1622	Wm. Leitch.....	"	Patent Alarm Gun.
1643	Municipal & Counting House Telegraph Co...	"	Telegraph Instrument.
1650	United States Watch Co.	Marion, N. J.....	Watch Movements and Dials.
912	W. B. Smith & Co.....	Cincinnati, O.....	Burglar and Fire-Alarm.
1124	Peter Neff, Jr.....	"	Burglar Alarm Telegraph & House Bell Enunciator.
1546	M. Greenwood & Co.....	"	Close Plating.
1675	R. C. Webster.....	"	Gold Ore (Exhibition only).
1116	J. B. Schroeder.....	"	Burglar Alarm.
1515	Steinberg & Mayer.....	"	Ladies' and Gents' Wigs.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges appointed to examine into the merits of the articles contained in Class 10, beg leave to make the following report:

In regard to the articles exhibited for competition by MARSH, CORLISS & Co., No. 648, and A. O. FORSBURG, Nos. 828 to 832,

we found some difficulty in arriving at a definite conclusion as to the relative merits of the apparatus used by the two competing parties. As to external finish—*i. e.*, fineness of polish and lightness of parts—combined with the necessary strength, we find MARSH, CORLISS & Co., entitled to the highest premium. But as to the relative merits of the form of construction as exhibited by these two parties, especially in the case of club-foot apparatus, and what is termed the “Radical Cure Truss,” we found such a variety—and even diversity—of opinions among the many scientific experts who were called in to aid us in our investigations, that we feel averse to giving the preference to either; believing, as the majority of us do, that while in one case one system of construction would be preferable, in another case the other system would be most beneficial. We are therefore compelled to recommend the first award to MARSH, CORLISS & Co., for beauty of form and fineness of finish only.

No. 334. To S. S. WHITE, we recommend the highest premium to be given on artificial teeth, in consideration of the fine display of excellent work in that line. The only competition they have in this department is a few teeth made by Drs. WARDLE & WILLIS for their own use.

Nos. 335 and 336. In the competition for awards for dental instruments, we unhesitatingly recommend S. S. WHITE, as first in merit, both in regard to the exact fitting of the parts, as well as the external polish of the instruments. To his competitors, GEO. WATT & Co., Nos. 523 and 761, we recommend a second award, in consequence of exhibiting instruments of his perfect workmanship.

No. 547. In regard to the matter of mechanical dentistry, we found it very difficult to decide between the various competitors. To Drs. WARDLE & WILLIS, we advise the first award in this department of dentistry, in consideration of the fact, that, although the amount of work exhibited was small, still it is the only firm which claims to construct the teeth they use. The samples of teeth exhibited by them were very fine in form and finish, but limited in amount.

No. 1020. To Dr. T. J. HARCOURT, we recommend the second award for mechanical dentistry. Beside the display of dental specimens, a miniature steam engine was kept constantly running, which seemed to attract considerable attention.

Nos. 907 and 908. To L. ROBERTSON, we must recommend a third premium for mechanical dentistry. The workmanship and skill, in his case, so closely competes with No. 1020, that it is difficult to determine a degree of preference—the extent of display seeming, alone, to cast the balance against him. This exhibitor offers, for special notice, a new device for the operating dentist, which he denominates an *impression-cup* in contradistinction to the common *compression-cup*. By this instrument an impression of the mouth may be obtained by simply *pouring* the liquid plaster into it, instead of using pressure to obtain the imprint. It is claimed that, in consequence of the peculiar condition of some mouths, this is a decided improvement over the old method of using pressure to obtain the impression. We commend it to your consideration for a special award of some kind.

No. 968. Dr. E. B. FAIRCHILD exhibits a single set of teeth mounted on an aluminum plate. It is a very good piece of work, for aluminum is a very difficult metal to work. We leave you to judge of the award.

No. 337. JAMES LESLIE exhibits gold, silver, and tin-foil for dentists' use. All of his materials are of the best quality. There is no competition. The large sheet of gold-foil made a rich display. We are not to dictate awards ; but he deserves one.

No. 1018. A. D. SMITH & Co. exhibit one large regulator clock. It is in a massive case of native wood, elaborately wrought, American make, seconds pendulum. No competition ; consequently takes the highest premium in that line of clocks. No test of its time-keeping could be made in such an unsteady place.

No. 679. MOHLENHOFF & Co. have on exhibition nine orna-

mental mantel clocks of different patterns—imported goods. Some are very fine, and deserve favorable mention.

No. 433. T. F. RANDOLPH shows a specimen of model making. This is a very complicated piece of machinery, evidently designed by the inventor to test some principle in mechanics by actual experiment. This sample of workmanship exhibits facilities for doing such work which are not to be found in every establishment. We recommend a favorable notice of this work. No competition in model-making.

No. 431. T. F. RANDOLPH. A splendid case of surveyors' and engineers' field and platting instruments. The two theodolites in this case deserve a first-class award, although there is no competition.

Nos. 847 to 853, inclusive. KOHL & TYLER. This firm make a fine display of a great number of stereoscopic boxes and pictures, which proved to be a very attractive feature of the Exposition, and, on that account, we think should receive a very favorable notice and a first-class award.

No. 544. THOS. FUGATE exhibits a few stereoscopic boxes and pictures, and, on account of the meager supply, does not successfully compete with KOHL & TYLER. But there is one feature in the boxes exhibited by him which should have some award of merit or honorable mention. It is this: There is an apparatus in the box by which the pictures are raised into view by a simple crank-motion worked by one hand, and so simple and convenient that a child may operate it.

HAIR WORK, HAIR JEWELRY, WIGS, AND HAIR.

The competing parties in this class are four in number: Madame ZWICK, No. 775; WM. SCHUBELER, No. 359; Madame D. ZEHNDER, No. 1508, and Messrs. STEINBERG & MAYER, No. 1515.

No. 775. The display made by Madame ZWICK we find to be the most extensive upon exhibition, and embracing every variety and style of workmanship in hair, and indicating a marked degree of skill and taste in both the arrangement and combination. Samples of watch chains, bracelets, rings,

brooches, and other jewelry worked in hair, are shown, of the most elaborate patterns, while the various designs of memento landscape pictures in miniature, of the same material, exhibits a rare degree of attainment in this department of the arts, and in view of the extent and quality of the display of Madame ZWICK over her competitors, we recommend the award of the first premium to her.

No. 1508. Madame D. ZEHNDER exhibits a case of hair work, jewelry, etc., of very creditable skill and taste, hardly inferior to that of Madame ZWICK, but not equal in extent or variety. The special attention, however, of the General Committee is called to the very beautiful wreaths worked in hair, in glass cases, indicating a proficiency in this branch of the arts highly to be commended. The second premium is therefore recommended with the special mention as above.

No. 359. Next in order is the exhibition of WM. SCHUBELER; and here we find competition so close that any thing which may be said in the praise of one may be also said in behalf of the other. The case of real and false hair exhibited by Mr. SCHUBELER is also to be particularly mentioned; but while the quality of the work shown is thus to be commended, the display as a whole is not equal in extent to that of the competitors already reported upon. We therefore are compelled to award a third premium in this case.

No. 1515. Messrs. STEINBERG & MAYER exhibit a case of fine wigs and switches of real hair, embracing a special feature distinct from fancy work, such as jewelry, wreaths, etc., and is deserving of special notice as evincing workmanship and skill in the manufacture of wigs and the preparation of hair. We therefore would recommend a special award for *wigs and hair*.

FIREWORKS.

No. 361. The exhibitions of Messrs. H. P. DIEHL & Co., owing to the rules of the Committee, no ingredients could be allowed in the cases, no judgment therefore could be formed of the quality of the material used by Mr. DIEHL. The finish and arrangement of the pieces, however, give a very good

idea of the workmanship performed by the exhibitor in his class of manufacture, and it is but just to say, that the reputation of Mr. DIEHL in the business community, among those who deal in fireworks, is of the highest character, and we therefore recommend an award in this case.

SILVER WARE.

This class we divide into two:

First.—Solid silver ware.

Second.—Plated silver ware.

In the first there are two competitors, of these Messrs. DUHME & Co. exhibit a case of solid silver ware of the most elaborate and chaste designs, consisting of tureens, baskets, water pitcher, urn, forks, spoons, ladles, etc. The character of the workmanship displayed in this contribution to the Exhibition is of the very highest order. There is scarcely any thing in the whole Exhibition which evinces greater skill and beauty of finish as is here shown in this case of silver ware. The unanimous opinion of the Judges is but the expression of thousands of delighted visitors, when they say that for beauty of design and executions of detail, nothing compares with it in this class in the whole Exhibition. It is the more to be commended in that it is all the work of Western artisans. The first premium of the first class is therefore recommended by the Judges to Messrs. DUHME & Co. for this very fine display.

The second in order is the exhibition of D. KINSEY. Here we have a display of work, not so elaborate in design nor so intricate in detail as the one just reported upon, but still indicating a skillfulness and perfection of workmanship highly complimentary to the efficiency of Mr. KINSEY as a manufacturer. The goods themselves consist of a class coming more within the reach of the less wealthy but more numerous class of people, who prefer solid silver plate to the cheaper plated article and yet could not afford the costly though beautiful ware previously mentioned in this report. The ware shown by Mr. KINSEY consists of water pitchers, goblets, snuff boxes, baskets, spoons, forks, etc., all of "sterling" silver of standard quality. Mr. KINSEY is the representative

of the oldest manufacturer of silver ware in this city, and the reputation of the firm from its first commencement has always been of the highest class. The second premium is urged by the Committee.

SILVER PLATED WARE.

No. 1220. Messrs. MANNING, ROBINSON & Co. exhibit a case of ware in this department of the mechanic arts of a very superior character. The designs of the various patterns of urns, cake baskets, table castors, etc., and the perfection of the plating so closely resemble the real article that only upon closely and critically examining the ware could the difference be detected. We are informed that every article upon exhibition in this case is of the manufacture of the Messrs. MANNING, ROBINSON & Co. The unplated hollow ware in German silver and Britannia ware, is made at their factory at Middletown, Connecticut, while the silver plating is carried on at their factory in this city. The Judges in this class recommend a special premium to be awarded for best display of plated ware.

CLOSE OR HAND PLATING.

No. 1546. M. GREENWOOD & Co. show samples of "close plating" which evince a considerable proficiency in this particular branch. The exhibition is not extensive, consisting of a specimen of plated railing with two large balls and intervening collars. The work is well done, and in the seaming or jointing of the sheet silver the edges are so accurately fitted as to defy detection. We therefore recommend an award such as the Committee deem proper in the case.

MILITARY GOODS.

Exhibited by Messrs. B. KITTRIDGE & Co., we find to consist of an assortment of military goods, accoutrements, and fire-arms, embracing every thing sought for by the man of war, the sportsman, or the harmless militia captain, from a case of bird shot to a full regulation set of equipments, or the formidable breech-loading rifle. There is no competition in this line of goods.

THE UNCLE SAM NEEDLE GUN.

No. 524. Exhibited by JAMES McFARLAND, is a United States Springfield rifle altered to a breech-loading needle gun. The invention, as shown, seems to embrace simplicity with strength of parts, but as there was no opportunity to thoroughly test the gun no judgment could be formed as to its value as a new arm for the service. While the device shows ingenuity of invention, the workmanship of the new parts is necessarily rough and unfinished. We therefore recommend special mention.

PATENT ALARM GUN.

No. 1622. WM. LEITCH. This invention is intended to supply a cheap yet efficient method of detecting an improper interference with the fastenings of doors, windows, etc. The instrument is in the form of an ordinary sized pistol, with screw-clamp to fasten to a window sill or the edge of a table. The trigger works in a kind of universal joint, so as to fire the pistol when it is pulled from any direction, by means of a cord or wire fastened to it at one end, while the other connects with door or window, or several cords running in different directions may be connected at the same time. The simplicity yet ingenuity displayed in this invention is so apparent that we recommend a special award for alarm gun.

LIGHTNING RODS.

No. 432. T. F. RANDOLPH, representing Hall's patent lightning rod, exhibits a conducting rod which consists of a copper sheet cut of various widths according to the intended diameter, and these are rolled up in the form of a scroll with the folds overlapping, but not in contact at the laps, thus presenting a large amount of surface for the flow of the electric fluid without necessitating a large diameter. All the researches in electrical science, and the testimony of prominent electricians, seem to sustain the claims of the inventor of this rod. First, that, being of copper, as a lightning conductor it stands at the head of the list; and, second, that *surface*, not thickness merely, being also an essential qualification for conducting-power. The rod, in question, is superior to all others in use,

from its peculiar construction as already described. We, therefore, deem it entitled to a first premium.

GOLD PENS AND HOLDERS.

No. 833. J. HOLLAND. The workmanship shown in this case, having no competition, and being of excellent quality, and embracing an extended variety of all kinds of pens, we would award a first premium for gold pens.

MUNICIPAL AND COUNTING-HOUSE TELEGRAPH.

No. 1643. The system of telegraphing here exhibited is intended to supply a want felt ever since the invention of electrical communication was introduced; for, while the systems of Morse, House, Bain, and others, eminent in electrical and telegraphic science, have been generally adopted for long lines and wealthy corporations, a cheaper and simpler method has long been sought for which would enable one, comparatively unacquainted with the intricate workings of the lines as generally used, to readily communicate with others by means of the ordinary metallic wire, but still not requiring a knowledge of the Morse alphabet, or other systems above alluded to. This is accomplished by the use of a revolving arm pivoted to the center of a circular dial on which the English alphabet is stamped in large letters. A corresponding dial and index is placed at the other end of the line, and when the operator wishes to communicate with his colleague, all that is necessary to be done, is to spell out the words by revolving the arm or index point over the alphabet, and a slight pause in the motion at each desired letter composing the word, is instantly repeated at the other extremity. The details of construction need not be here enlarged upon; it is sufficient to say, that from the examination by the Committee, it was fully demonstrated that a child could readily send or receive a message by this method—for counting-house, factory, or domestic telegraphing on short lines particularly, the invention is unequalled. We, therefore, heartily recommend a first premium of the first class.

BURGLAR ALARMS.

Nos. 1124, 912, 1116. There are three competitors in this class, two on the electrical plan, and one operated mechanically. The competitors are Mr. PETER NEFF, JR., No. 1124, and representing the Holmes' Alarm; W. B. SMITH & Co., representing the Ross Alarm, No. 912, and SCHROEDER & Co., No. 1116. After a thorough and critical examination into the merits of the apparatus shown by the respective contestants, we present the following report, premising that if the report seems somewhat prolix, it is because we have desired to do justice in the matter of awards, and, therefore, particulars were deemed essential for a correct understanding:

The arrangement exhibited by Mr. NEFF consists in employing a galvanic battery to furnish the motive power to operate the alarm, which is a small gong sounded by a hammer, driven by the power of an electro-magnet and coil of the usual construction. Communication with any part of the house is made by means of insulated copper wires running so as to make or break circuit at a door or window; for a door, a spring bolt projecting through a plate, is placed in a secure manner in the jamb of the side to which the door is hinged; one end of the conducting wire is attached to the plate of the spring, and the other end to the spring itself, the plate and spring being insulated from each other by means of a wooden block. When the door is *shut* the edge presses against the spring bolt driving it out of communication with the wires, and when the door is open the bolt springs back, and the circuit being completed, the alarm is at once sounded.

The alarm is usually placed where it can be readily seen or heard, and in connection therewith is placed a circular switch table, which is constructed to indicate, by means of engraved tablets or knobs, the precise window or door which is being tampered with. There is also provided means by which connection with the battery can be cut off during the day or whenever desired. The advantages claimed for this method are: Facilities for running the conducting wires, as they can be run so as not to appear to the sight in the room or house,

or in any exposed manner; sharp turns or angles, offering no perceptible resistance to the flow of the current; the alarm being sounded by means of the electric current operating through the coil and magnet, no necessity exists for any clock work, or other appliances which may require special attention or looking after to keep in order. The battery used is the "LeClanch battery," and which will operate from six to nine months without attention, except the occasional application of a little water.

The alarm exhibited by SMITH & Co., for Mr. Ross, differs from that of Mr. HOLMES in that it is entirely mechanical in its operation, the alarm being sounded by means of clock work run by a weight, which, in its turn, is set in motion by the bell wire connecting with the door or window of the house, by means of a spring set in the jambs or sill, as in the system just described. The several advantages claimed by the inventor for this form of construction over the first described are as follows: The door or window which is being tampered with acts automatically upon the indicator and alarm, and the number or name of the door is thrown up in full view, and remains in that position, in connection with the continuous ringing of the bell, even should the door or window be closed again immediately after. Further, at the instant of an alarm being given, a match, moved by a piston, is forced through a friction socket, and thereby lighted, which also simultaneously ignites a gas jet, which is turned on automatically by means of the indicator frame or lever. Several screws are provided for each connecting wire, to draw up or relax the same if they should become too loose or too tight. Means are provided, as in the HOLMES alarm, for disconnecting any particular room or opening during the day. It is claimed, also, that in case of fire occurring in any part of the house through which the wires pass, and the heat affecting them, the fact is at once proclaimed by the alarm, and the disaster at once located.

The alarm exhibited by SCHROEDER & Co. appears to be a modification of the HOLMES alarm, and, like it, it is operated by electricity. The workmanship and detail of the instru-

ment, however, is not equal in finish, or construction and arrangement, to that of Mr. HOLMES.

The salient points have thus been passed upon by the judges in regard to the two systems, as there is quite a difference of opinion among many as to the relative merits of the two, and the question with the judges has been, which system, taking all things into consideration, will prove most effective for the longest time without repair or undue attention.

The facilities for running the fine insulated wire of the electrical system, in any irregular or intricate manner, or at any length or distance, without in the least impairing its efficiency or power of communication, is unquestionable, and of great advantage, while the system of tightly-stretching bell wires, requiring cranks at every turn, and the wires themselves to be run in straight lines, has seemed to the judgment of the Examining Committee to be objectionable, as compared with the first described arrangement, inasmuch as wires so stretched must be liable to either breakage from the strain, or to become useless from displacement or relaxation. Moreover, as the wires must run in straight lines, and be quite free in their motion, so as to act when pulled, their application to a dwelling or building can not be so easily made, and at the same time be so efficient and unseen, as is the conducting wire of the HOLMES plan.

The indicating and sounding apparatus, though showing considerable ingenuity in construction, appears to be somewhat complicated, and liable to derangement.

The workmanship and thorough finish of the apparatus of Mr. HOLMES, together with the ease with which the conducting wires may be run in long and intricate lines of communication, and their little liability to derangement, entitle, in the estimate of the Judges, Mr. PETER NEFF, JR., to the *first premium* for HOLMES' burglar alarm and enunciator, and the *second premium* to Messrs. W. B. SMITH & Co. for Ross's burglar alarm and indicator, and the *third premium* to SCHROEDER & Co. for burglar alarm.

No. 434. T. T. RANDOLPH, thermometers and barome-

ters. Of these useful instruments quite a display was made by this manufacturer, in all variety of cases, metal and wood. The workmanship was good, and the uniformity of the indications of the instruments shows careful and accurate adjustment. *Premium.*

Nos. 640 and 641. HENRY TWITCHELL exhibits two very useful instruments—an acidometer for wine and vinegar, and hydrometer for testing alcoholic strength of spirits. The acidometer is a very ready, neat, and convenient apparatus for determining the per cent. of acid in wines, and the per cent. of acetic acid in vinegar, with sufficient accuracy for the purposes of the wine-maker and dealer, and the vinegar manufacturer. It is an inexpensive apparatus, not likely to get out of order, easily handled, and adapted to the intelligence of an ordinary workman. The hydrometer is a standard article, well made, and accurate in its indications. *Premium on both articles.*

No. 1079. Eclectic watches, exhibited by HARRY R. SMITH & Co. We would report that these watches are admirable specimens of workmanship and construction, carefully adjusted, and are entitled to the highest praise; but as they are not of American manufacture can not compete for an award. The cases are, however, of American make. They are beautiful in design, style, and finish, and are excellent specimens of workmanship. No award for movements. *Premium for cases.*

No. 1650. UNITED STATES WATCH COMPANY, Marion, New Jersey. These watch movements, the result of American capital, skill, and perseverance, as specimens of this branch of science and manufacture, rival those of European make. The watches exhibited by this company are of all grades, from that of the most exact time-keeper, to the cheaper kind for the million; all are excellent of the kind, and are too well known and appreciated by the people to need further comment. *First premium* is awarded to the United States Watch Company.

No. 1213. WM. AUTENREITH, surgical instruments. Surgi-

cal instruments of all kinds—amputating, dissecting, obstetrical, dental, forceps, etc., of excellent finish and workmanship. *Premium.*

No. 1210. JOHN D. CALDWELL, case of regalias, Masonic and other emblems and jewels. For display and workmanship, *first premium.*

No. 1138. CHAS. G. MANNING, embroidered regalia. This work was beautifully done, and evinced much taste and care. *Premium.*

No. 705. WM. BECK, masquerade costumes, regalia, etc. Well displayed. *Second premium.*

No. 1675. R. C. WEBSTER, specimens of gold ores.

No. 1521. G. W. BISHOP, two silver bricks from Montana.

All of which is respectfully submitted.

E. S. WAYNE,
JAMES POWELL,
WILLIAM M. DAVIS.

AWARDS.

S. S. White, Artificial Teeth.....	<i>Large Silver Medal.</i>
S. S. White, Corundum Wheels, Files, and Slabs.....	<i>Diploma.</i>
James Leslie, Dentists' Gold, Silver, and Tin Foil.....	<i>Small Silver Medal.</i>
Wm. Schubeler, Hair Work and Jewelry.....	<i>Diploma.</i>
H. P. Diehl & Co., Fireworks..	<i>Diploma.</i>
Duhme & Co., Silver Ware and Fine Clock.....	<i>Large Silver Medal.</i>
T. F. Randolph, Mathematical Instruments.....	<i>Diploma.</i>
T. F. Randolph, Scroll Lightning Conductors.....	<i>Diploma.</i>
B. Kittredge & Co., Military Goods and Fire Arms.....	<i>Diploma.</i>
James McFarland, Uncle Sam's Needle Gun.....	<i>Diploma.</i>
Thos. Fugate, Stereoscopes.....	<i>Diploma.</i>
Drs. Wardle & Willis, Mechanical Dentistry.....	<i>Diploma.</i>
Henry Twitchell, Acidometers.....	<i>Diploma.</i>
S. N. Marsh, Corliss & Co., Finish and Construction of Trusses, Artificial Limbs, etc.....	<i>Diploma.</i>
Wm. Beck, Regalias and Fancy Costumes.....	<i>Diploma.</i>
Dr. A. O. Forsberg, Construction of Trusses, Artificial Limbs, etc.....	<i>Diploma.</i>
John Holland, Gold Pens.....	<i>Diploma.</i>
Kohl & Tyler, Stereoscopes and Views.....	<i>Large Silver Medal.</i>

L. Robertson, Impression Cup.....	Diploma.
A. D. Smith & Co., Regulator Clock.....	Diploma.
H. R. Smith & Co., Watches and Watch Cases.....	Diploma.
D. Kinsey, Silver Ware.....	Small Silver Medal.
Charles G. Manning, Masonic Goods.....	Diploma.
John D. Caldwell, Masonic Supplies	Diploma.
Wm. Autenrieth, Surgical Instruments	Diploma.
Manning, Robinson & Co., Silver Plated Ware.....	Small Silver Medal.
Madame Zwick, Hair Work, Braids, Wigs, etc.....	Large Silver Medal.
Mrs. D. Zehnder, Hair Jewelry.....	Small Silver Medal.
Wm. Leitch, Patent Alarm Gun.....	Diploma.
Municipal and Counting-House Telegraph Company, Telegraph In- struments.....	Diploma.
United States Watch Company, Watch Movements and Dials...	Large Silver Medal.
Peter Neff, Jr., Burglar Alarm, Telegraph, and House-Bell Enun- ciator.....	Diploma.
M. Greenwood & Co., Close Plating.....	Diploma.
Steinberg & Mayer, Wigs.....	Diploma.
S. S. White, Dental Instruments.....	Diploma.

CLASS 11.

Household Articles, Furniture and Upholstery, Carpets, Rugs,
Mats, and Paper Hangings.

JUDGES:

H. H. DAVIS.

JACOB GRAFF.

JOHN BAILEY.

No.	Exhibitor.	Residence.	Articles Exhibited.
321	Rudolf Berli.....	Covington, Ky.....	Piece of Rag Carpet.
322	Rudolf Berli.....	".....	Piece of Rag Carpet.
323	Rudolf Berli.....	".....	Piece of Rag Carpet.
329	Jos. W. Wayne.....	Cincinnati, O.....	Butchers' Refrigerators.
330	Jos. W. Wayne.....	".....	Schooley's Patent Refrigerators.
331	Jos. W. Wayne.....	".....	Beer Coolers.
347	Moran & Farnsworth....	".....	Refrigerators, Filters, and Coolers.
348	Moran & Farnsworth....	".....	Copper Urns, Coal Hods, and Copper Vases.
349	Moran & Farnsworth....	".....	Toilet Wares.
353	Day & Udell.....	".....	Step and Extension Ladders.
356	P. Eby.....	Buffalo, N. Y.....	Combined Fluting Machine and Sad Iron.
357	P. Eby.....	".....	Slat Bed Bottom.
358	P. Eby.....	".....	Bedstead Fastener.
365	Geo. H. Henkel.....	Ludlow, Ky.....	Combined Child's Cab and Cradle.
366	Geo. H. Henkel.....	".....	Extension Table.
367	H. H. Breneman.....	Cincinnati, O.....	Paper Hangings, Window Shades, etc.
368	Sitwell Harris.....	Louisville, Ky.....	Clothes Wringer.
369	Buckeye Washing Machine Co.	Wilmington, O.....	Clothes Wringer.
370	Samuel Haselburg.....	Cincinnati, O.....	Rag Carpet.
379	C. Curtiss.....	Louisville, Ky.....	Sofa Lounge.
385	Zerbe, Perine & Co.....	Cincinnati, O.....	Car Door.
393	W. R. Locke & Co.....	".....	Excelsior Wood Moss.
430	J. C. Van Pelt.....	".....	Refrigerators.
436	Albert E. Tripp.....	".....	Curtain Fixture Model.
446	G. F. Hammer.....	".....	Looking Glass Frames and Mouldings.
452	Ingle & Bennett.....	".....	Mirrors and Looking Glasses.
463	J. W. Burns.....	Medway, O.....	Curtain and Mat Fixture.
476	Wm. Altick.....	Dayton, O.....	Parlor Fountain.
477	H. F. Nelson & Co.....	Cincinnati, O.....	School and Office Desks.
478	Bruce & Co.....	".....	Linen and Card Markers.
479	Bent & Goward.....	Chicago, Ill.....	Extension Table.
483	Thomas Liebler.....	Cincinnati, O.....	Fancy Wooden Case for Silver Ware.

CLASS 11.—HOUSEHOLD ARTICLES, FURNITURE, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
495	N. Patterson & Co.....	Cincinnati, O.....	Japanned and Painted Ware.
509	R. J. Ellis.....	Newport, Ky.....	Rustic Stand.
510	R. J. Ellis.....	".....	Wardian Cases, Furnished.
529	F. Andress & Co.....	Cincinnati, O.....	Wall Paper Patterns.
530	Homan & Co.....	".....	White Metal and Britannia Ware and Spoons.
548	J. B. M. Fifield.....	Philadelphia, Pa.....	Combination Side Board.
550	Richard Nelson.....	Cincinnati, O.....	Davis' Patent Mixer and Furniture Screen.
551	C. A. Temple.....	".....	Model Boston Carpet Beating Machine.
554	J. G. F. Grote.....	".....	Spring Mattresses & Bolster.
562	Cincinnati Furniture Association.....	".....	Etageres and Sideboard.
569	G. F. Hammer.....	".....	Looking Glass Frame.
575	F. Broegemann.....	".....	Plush.
577	J. H. Shaffer.....	".....	Wooden Ware.
578	W. J. & E. H. Kirk.....	".....	Window Shades.
582	S. Holmes & Son.....	".....	Wall Paper and Window Shades.
636	Joshua Jones & Co.....	".....	Furniture.
643	Cincinnati Tin & Japan Manufacturing Co.....	".....	House Furnishing Hardware.
644	Cincinnati Tin & Japan Manufacturing Co.....	".....	American Broiler.
645	Steinman, Meyer & Co...	".....	Extension Table and Patent Rocker Cradle.
654	F. H. Knoblauch.....	".....	Assortment of Furniture.
678	Middendorf & Bro.....	".....	Window Shades and Venetian Blinds.
682	J. C. Hall & Co.....	".....	Model of Wardrobe Bedstead.
704	E. L. Parris.....	".....	Wooden Ware.
714	John Milwain.....	Nashville, Tenn.....	School Desks.
725	T. Murdock & Commingore.....	Cincinnati, O.....	Patent Brooms.
803	French & Myers.....	".....	Ornamental Wood Work.
840	L. Voight & Co.....	".....	Paper Hangings and Window Shades.
839	Snowdon & Otte.....	".....	Carpets and Curtains.
844	Kohl & Tyler.....	".....	Adjustable Parlor Table.
845	Kohl & Tyler.....	".....	Adjustable Photo. Table.
799	A. C. Richards.....	".....	Walnut Bedstead.
854	A. C. Richards.....	".....	Oiled Walnut Dressing Case.
855	A. C. Richards.....	".....	Oiled Walnut Sideboard and Silver Case Combined.
856	A. C. Richards.....	".....	Book Case and Rosewood Bedstead.
857	A. C. Richards.....	".....	Rosewood Dressing Bureau and Work Stand.
858	A. C. Richards.....	".....	Oiled Walnut Sideboard and Rustic Hat Rack.

CLASS 11.—HOUSEHOLD ARTICLES, FURNITURE, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
859	A. C. Richards.....	Cincinnati, O.....	New York Davenport and Oiled Walnut Rustic Table.
860	A. C. Richards.....	"	Oiled Walnut Rustic Flower Stand and Tub.
861	A. C. Richards.....	"	Oiled Walnut Flower Stand and Pillar Extension Table.
862	A. C. Richards.....	"	Oiled Walnut Fine Lounge, Bedstead, and Music Stand.
863	A. C. Richards.....	"	Oiled Walnut Plain Lounge and Bedstead.
864	A. C. Richards.....	"	Oiled Walnut Camp Chairs and Music Stand.
865	A. C. Richards.....	"	Oiled Walnut Shaving Stand and Aquarium.
866	A. C. Richards.....	"	Oiled Walnut Hangers, Hat Rack, and Card Receivers.
867	A. C. Richards.....	"	Spring Bed Bottom and Oiled Walnut Pedestal.
894	Lewis Massman, Sr.....	"	Enameled Ware.
896	Dierckes, Hofschulte & Co.....	"	Marbleized Iron and Slate Mantels.
902	A. J. & G. W. M. Vandegrift.....	Covington, Ky.....	Coffee & Spice Mill.
905	Julius Balke.....	Cincinnati, O.....	Billiard Tables and Fixtures.
911	Dolph, Brown & Co.....	"	Bureau Frames and Standers.
916	Joseph C. Ringwalt & Co	"	Carpets, Oil Cloths, Druggets, Mats, and Rugs.
917	Waters & Barrett.....	"	Wooden Buckets.
919	C. S. Rankin & Co.....	"	Marbleized Iron Mantels.
923	H. M. Diggins.....	"	Ice-King Refrigerator.
924	J. M. Brunswick & Bro..	"	Billiard Table and Revolving Cue Rack.
928	VanName & Co.....	"	Clothes Wringer and American Mangle.
930	Queen City Wringer Co.	"	Clothes Wringers.
941	Joseph Foster.....	"	Marble Mantels and Washstand.
948	C. H. Berry.....	Boston, Mass.....	Berry's Patent Bed Lounge.
981	James L. Wayne & Son..	Cincinnati, O.....	Cutlery and Fluting Machines.
1014	H. Closterman.....	"	Sociables, Arm, and Small Chairs, and Marble Table.
1015	H. Closterman.....	"	Caned and Wood Chairs and Spittoon.
1026	E. D. Albro & Bro.....	"	Chamber Set, Newell Posts, and Veneering.
1028	M. Murray.....	"	Spring Bed Bottom.
1041	S. Espach.....	"	Iron Bedstead.
1058	Henry Eilers	"	Spring Mattresses.
1066	Waters & Barrett.....	"	Tubs and Washboard.
1068	Mitchell & Rammelsberg Furniture Co.....	"	Bedstead and Bureau.

CLASS 11.—HOUSEHOLD ARTICLES, FURNITURE, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1069	Mitchell & Rammelsberg Furniture Co.....	Cincinnati, O.....	Bedstead and Sideboard.
1070	Mitchell & Rammelsberg Furniture Co.....	"	Extension Table and Rosewood Bookcase.
1071	Mitchell & Rammelsberg Furniture Co.....	"	Gilt Pier Glass and Mantel.
1072	Mitchell & Rammelsberg Furniture Co.....	"	Rosewood Parlor Set (Ex. only), Card Stand.
1073	Mitchell & Rammelsberg Furniture Co.....	"	Rosewood Parlor Table.
1074	Mitchell & Rammelsberg Furniture Co.....	"	Folding Bed Lounge and Reclining Chair.
1075	Mitchell & Rammelsberg Furniture Co.....	"	Parlor Desks and Library Chair.
1076	Mitchell & Rammelsberg Furniture Co.....	"	Etagere Mattress, Hat Rack and Chairs.
1077	Mitchell & Rammelsberg Furniture Co.....	"	Parlor Stands (Ex. only).
1078	Mitchell & Rammelsberg Furniture Co.....	"	Workstands, Vases, Flower Imitation and Lace Curtains.
1123	Henry Schlotman.....	"	Window Shades.
1170	J. L. Walker.....	New York City.....	Fluting Machine.
1171	J. L. Walker.....	"	Combined Milk and Letter Box.
1227	Henry Billerman.....	Covington, Ky.....	List Carpet.
1234	A. D. Bullock & Co.....	Cincinnati, O.....	White, Black, and Gray Curled Hair.
1503	David Buffum.....	Salem, Mass.....	Patent Spring Bed.
1505	Wm. P. McKee.....	Cincinnati, O.....	Fluting Machine.
1520	E. Wiswell	"	Sideboards.
1523	N. O'Donald	"	Lapboards.
1106	Mueller & Henning.....	"	Marble Mantels.
1626	C. B. Evans & Co.....	"	Marbleized Slate Mantels.
1532	M. Greenwood & Co.....	"	Sad, Laundry, Tailors' Irons, etc.
1533	M. Greenwood & Co.....	"	Fluting Machines, Shovels, Tongs, Stands, and Fire Irons.
1535	M. Greenwood & Co.....	"	Piano, Store, and Foot Stools.
1542	M. Greenwood & Co.....	"	Garden, Settee, and Verandah Seat.
1577	H. C. Richards.....	"	Corner Protector for Houses.
1614	Leland & Berry.....	Boston, Mass.....	Spring-Bed and Folding Bed Lounge.
1620	J. C. Gaston.....	Cincinnati, O.....	Churn.
1628	Ellis & Meara.....	"	Paper Hangings, Mouldings, Spring Mattresses, Carpets, etc.
1638	Putnam, Hooker & Co....	"	Bed Spreads.

CLASS 11.—HOUSEHOLD ARTICLES, FURNITURE, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1655	J. E. Jones.....	Cincinnati, O.....	Combination Sofa, Lounge, and Table (Ex. only).
1656	Mrs. C. W. Allen.....	"	Sad-Iron Safety Stand.
1683	Cyrus Wakefield.....	Boston, Mass.....	Rattan Sofa, Matting Chairs, Hampers and Mats (Ex. only).
444	Emile Loiseau... ..	Nashville, Tenn.....	Movable and Adjustable Shade Model.
1704	C. H. Helmkamp.....	Reading, O.....	Patent Self-Rocker (Exhibition only).
1029	G. D. Winchell, Upson & Co.....	Cincinnati, O	Japanned Ware.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges of Class 11 report as follows:

Nos. 321, 322, 323. RUDOLF BERLI, three pieces rug carpet; a fair article. *Second degree.*

Nos. 329, 330, 331. JOSEPH W. WAYNE, refrigerators, beer coolers, having two kinds of ice chests. *First degree.*

No. 347. MORAN & FARNSWORTH, three filters and coolers. *First degree.*

No. 348. MORAN & FARNSWORTH, two copper urns. *First degree.*

No. 349. MORAN & FARNSWORTH, three refrigerators, two coal vases, two coal hods. Passed. Three sets of toilet ware. Passed.

No. 353. DAY & UDELL, one step ladder, one extension ladder; first-rate articles. *First degree.*

No. 356. P. EBY, combined fluting machine and sad iron; a useful article. *First degree.*

No. 357. P. EBY, slat bottom bed. *Second degree.*

No. 358. P. EBY, bedstead fastener. Passed.

No. 365. GEORGE H. HENKEL, child's cab and cradle combined; of no practical use. Passed.

No. 366. GEORGE H. HENKEL, one extension table. Passed.

No. 367. H. H. BRENNEMAN, paper hangings; best and largest display of paper hangings. *First degree.* Window shades. *Second degree.*

No. 369. BUCKEYE WASHING MACHINE COMPANY, one Buckeye clothes wringer. *Second degree.*

No. 368. SITWELL HARRIS, clothes wringer attachment for a tub. *Second degree.*

No. 370. SAMUEL HASELBURG, two rolls rag carpet. *First degree.*

No. 379. C. CURTISS, one sofa lounge. Passed.

No. 385. ZERBE, PERINE & Co., one car door. Passed.

No. 393. W. R. LOCKE & Co., five bales of Excelsior wood moss. *First degree.*

No. 430. J. C. VAN PELT, one large and one small refrigerator. *Second degree.*

No. 436. ALBERT E. TRIPP, one curtain fixture model. Passed.

Nos. 446, 569. G. F. HAMMER, two looking-glass frames and mouldings. *Second degree.*

No. 452. INGLE & BENNETT, three mirrors and ten shock looking-glasses; looking-glasses silvered in Cincinnati. *First degree.*

No. 463. J. W. BURNS, one curtain and map fixture; a very useful article. *First degree.*

No. 476. WM. ALTICK, parlor fountain; an appropriate parlor ornament, being self-adjusting. *First degree.*

No. 477. H. F. NELSON & Co., two school and one office desk. *First degree.*

No. 478. BRUCE & Co., five linen and card markers. *First degree.*

- No. 479. BENT & GOWARD, extension table. Passed.
- No. 483. THOMAS LIEBLER, fancy case for silver ware. Passed.
- No. 495. NICHOLAS PATTERSON & Co., japanned and painted ware; of equal merit with Winchell & Co. (see No. 1029). *First degree.*
- No. 509. R. J. ELLIS, rustic stand. *First degree.*
- No. 529. F. ANDRESS & Co., wall paper patterns; some very fine; equal in merit to Ellis & Meara (see No. 1628). *Third degree.*
- No. 530. HOMAN & Co., white metal and Britannia goods and spoons; beautiful ware. *First degree.*
- No. 548. J. B. M. FIFIELD, patent combination sideboard. Passed.
- No. 550. R. NELSON, one Davies' patent mixer. *First degree.* One furniture screen. *First degree.* Both useful articles.
- No. 551. C. A. TEMPLE, model Boston carpet beating machine; a practical working machine. *First degree.*
- No. 554. J. G. F. GROTE, two spring mattresses, one spring bolster, with new improvements. *First degree.*
- No. 562. CINCINNATI FURNITURE ASSOCIATION, two etageres and one sideboard; equal in merit to Jos. Jones & Co. (see No. 636), and E. Wiswell (see No. 1520). *Third degree.*
- No. 575. F. BROEGELMANN, seven pieces of plush; home manufacture. *First degree.*
- No. 577. J. H. SHAFFER, wooden ware; equal in merit to Waters & Barrett No. 1066. *Second degree.*
- No. 578. W. J. & E. H. KIRK, shades for windows; a fine display. *First degree.*
- No. 582. S. HOLMES & SON, decoration wall paper and window shades; some very superior. *Second degree.*
- No. 636. JOSHUA JONES & Co., four pieces of furniture; equal in merit to E. Wiswell, No. 1520, and Furniture Association (see No. 562). *Third degree.*

No. 645. STEINMAN, MEYER & Co., one extension table and patent rock cradle. Passed.

No. 643. CINCINNATI TIN AND JAPAN MANUFACTURING COMPANY, general house-keeping hardware. *First degree.*

No. 644. CINCINNATI TIN AND JAPAN MANUFACTURING COMPANY, one American broiler. *First degree.* This display includes Japan goods and table cutlery.

No. 654. F. H. KNOBLAUGH, chamber set, bedstead, bureau, and wash stand. Passed.

No. 678. MIDDENDORF & BRO., window shades. *Third degree.* Venetian blinds. *First degree.*

No. 682. J. C. HALL & Co., model of wardrobe bedstead; a convenient article. *First degree.*

No. 704. EDWARD L. PARRIS, wooden ware. *First degree.*

No. 714. JOHN MILWAIN, one school desk. Passed.

No. 725. MURDOCK & COMMINGORE, three patent brooms. Passed.

No. 803. FRENCH & MYERS, ornamental wood work. *First degree.*

No. 840. L. VOIGHT & Co., paper hangings and window shades. Passed.

No. 839. SNOWDON & OTTE, carpets and curtains. *First degree.*

No. 844. KOHL & TYLER, two adjustable parlor tables. Passed.

No. 845. KOHL & TYLER, one adjustable photograph table. Passed.

No. 799. A. C. RICHARDS, for the largest and finest display of elegant and highly finished furniture—taken as a whole—*First degree.*

No. 854 to 867. A. C. RICHARDS, one oiled walnut bedstead, one oiled walnut fine dressing case, one oiled walnut sideboard and silver case combined, one rosewood dressing bureau, one rosewood wash stand, one oiled walnut sideboard, one oiled

walnut rustic hat rack, one oiled walnut pedestal, one oiled walnut shaving stand, one aquarium, one oiled walnut plain lounge and bedstead, one oiled walnut music rack, one fine lounge and bedstead, one elegantly carved hanging hat rack. *First degree.* One book case, one rosewood bedstead, one mahogany table, one oiled walnut extension table. *Second degree.* Parlor set equal in merit to Mitchell & Rammelsberg. There are also in this collection oiled walnut rustic table, oiled walnut rustic flower stand and tub, camp chairs, oiled walnut flower stand, oiled walnut hanging hat rack, spring bed bottom. In fixing the degree of merit for the above-named furniture, reference was had not only to that of Mitchell & Rammelsberg, who had the second best display, as a whole, but also to the various exhibitions of furniture in the Exposition.

No. 1068 to 1078. MITCHELL & RAMMELSBERG FURNITURE Co., for the second largest and finest display of elegant and highly finished furniture, taken as a whole. *Second degree.* One bedstead, one bookcase, one extension table, one oiled walnut parlor table, one parlor desk, one reclining chair, one library chair, one corner etagere, one patent crib, one hall chair. *First degree.* One bureau, one bedstead, one sideboard, one bureau, one folding bed lounge, one mattress, one gilt pier glass, and one gilt mantel, one hat rack; parlor set, equal in merit to A. C. Richards'. *Second degree.* There are also in this collection card stand, parlor stands, wash stand, vases, imitation lace curtains, dining-room chairs. In fixing the degree of merit for the above-named furniture, reference was had not only to that of A. C. Richards, who had the best display, as a whole, but also to the various exhibitions of furniture in the Exposition.

No. 894. LEWIS MASSMAN, SR., enameled ware; excellent quality. *First degree.*

No. 896. DIERCKES, HOFSCULTE & Co., marbleized iron and slate mantels; these mantels are well finished. *Second degree.*

No. 902. A. J. & G. W. VANDEGRIFT, one coffee and spice mill. *First degree.*

No. 905. JULIUS BALKE, two billiard tables and fixtures. *First degree.*

No. 911. DOLPH, BROWN & Co., bureau frames and standards for same; first-class manufacture and fine finish. *First degree.*

No. 916. JOSEPH C. RINGWALT & Co., druggets, mats, and rugs. *First degree.* Carpets. *Second degree.*

No. 919. C. S. RANKIN & Co., marbleized iron mantels; in this collection of mantels all are elegantly finished and merit a special notice. *First degree.*

923. H. M. DIGGINS, ice-king refrigerator; this refrigerator has two chambers of different temperatures. *First degree.*

No. 924. J. M. BRUNSWICK & Bro., one billiard table and revolving cue rack. *Second degree.*

No. 928. VANNAME & Co., one American mangle. *First degree.* One clothes wringer. *Second degree.*

No. 930. QUEEN CITY WRINGER COMPANY, three clothes wringers; best display and quality. *First degree.*

No. 941. JOSEPH FOSTER, six marble mantels and fancy wash stand; best display and elegantly finished. *First degree.*

No. 948. C. H. BERRY, Berry's patent bed lounge. Passed.

No. 981. JAS. L. WAYNE & SON, three fluting irons. Passed. Case of cutlery.

No. 1014. H. CLOSTERMAN, two sociables, three arm chairs, and two small chairs. Passed. One marble table, wood chair. Passed. Four caned chairs, one spittoon. *First degree.*

No. 1026. E. D. ALBRO & Bro., four newel posts and veneering. *First degree.* One chamber set; well made.

No. 1028. M. MURRAY, four spring bed bottoms. Passed.

No. 1058. HENRY EILERS, spring mattresses with new improvements. *Third degree.*

No. 1041. S. ESPACH, one iron bedstead. Passed.

Nos. 917 and 1066. WATERS & BARRETT, tubs and washboards, buckets; equal in merit to J. H. Shaffer's, No. 577. *Second degree.*

No. 1123. HENRY SCHLOTMAN, window shades. Passed.

No. 1170. J. L. WALKER, one fluting machine. Passed.

No. 1171. J. L. WALKER, one combination milk and letter box. *First degree.*

No. 1227. HENRY BILLERMAN, list carpet; a good article. *First degree.*

No. 1234. A. D. BULLOCK & Co., white, black, and gray curled hair; a very superior article. *First degree.*

No. 1503. DAVID BUFFUM, one patent spring bed. Passed.

No. 1505. WM. P. MCKEE, one fluting machine. *First degree.*

No. 1520. E. WISWELL, two sideboards; equal in merit to Cincinnati Furniture Association; (see No. 562 and Jos. Jones & Co., No. 636). *Third degree.*

No. 1523. N. O'DONALD, two patent lapboards. Passed.

No. 1106. MUELLER & HENNING, two marble mantels; these mantels are well made. *Second degree.*

No. 1532. MILES GREENWOOD & Co., sad, laundry, and tailor irons, etc. *First degree.*

No. 1535. MILES GREENWOOD & Co., shovel and tongs stands. *First degree.*

No. 1542. MILES GREENWOOD & Co., iron piano and foot stools. Garden settee and verandah seat. *First degree.*

No. 1533. MILES GREENWOOD & Co., fluting machines. *Second degree.*

No. 1577. H. C. RICHARDS, corner protectors for public and private houses. These are placed on the stairs. *First degree.*

No. 948. LELAND & BERRY, spring bed or slats. Simplest and best. *First degree.*

No. 1620. J. C. GASTON, one churn. A meritorious article. *First degree.*

No. 1626. C. B. EVANS & Co., marbleized mantels. A great variety of mantels, elegantly finished, and worthy of especial notice. *First degree.*

No. 1628. ELLIS & MEARA, spring mattresses. *Third degree.* Paper hangings and mouldings, equal in merit to F. Andress (see No. 529). *Third degree.*

No. 1638. PUTNAM, HOOKER & Co., twenty bed spreads. Passed.

No. 1655. J. E. JONES, combination sofa, lounge, and table (exhibition only).

No. 1656. Mrs. C. W. ALLEN, safety sad iron stand. Passed.

No. 444. EMILE LOISEAU, one movable and adjustable shed roof. Passed.

No. 1029. G. D. WINCHELL, UPSON & Co., japan and painted ware, equal in merit to japan ware of N. Patterson & Co., No. 495. *First degree.*

JOHN BAILEY,
JACOB GRAFF,
H. H. DAVIS.

AWARDS.

Joseph W. Wayne, Butchers' Refrigerators, Beer Coolers, etc.....	<i>Diploma.</i>
Moran & Farnsworth, Filters, Coolers, and Copper Urns.....	<i>Diploma.</i>
Day & Udell, Step and Extension Ladders.....	<i>Diploma.</i>
P. Eby, Combined Fluting Machine and Sad Iron.....	<i>Diploma.</i>
H. H. Breneman, Paper Hangings.....	<i>Small Silver Medal.</i>
Samuel Haselburg, Rag Carpet.....	<i>Diploma.</i>
W. R. Locke & Co., Excelsior Wood Moss	<i>Diploma.</i>
G. F. Hammer, Looking Glass Frames and Mouldings.....	<i>Diploma.</i>
Ingle & Bennett, Mirrors and Looking-Glasses.....	<i>Large Silver Medal.</i>
William Altick, Parlor Fountain.....	<i>Diploma.</i>
H. F. Nelson & Co., School and Office Desks.....	<i>Diploma.</i>
Bent & Goward, Extension Dining Table.....	<i>Diploma.</i>
N. Patterson & Co., Japanned and Painted Ware.....	<i>Diploma.</i>
Homan & Co., White Metal and Britannia Ware.....	<i>Large Silver Medal.</i>
Richard Nelson, Furniture Screen and Patent Mixer.....	<i>Diploma.</i>
C. A. Temple, Carpet Beating Machine.....	<i>Diploma.</i>
J. G. F. Grote, Spring Mattresses and Bolster.....	<i>Diploma.</i>
F. Broegelman, Plush.....	<i>Large Silver Medal.</i>
W. J. & E. H. Kirk, Window Shades.....	<i>Diploma.</i>

S. Holmes & Son, Wall Paper.....	<i>Diploma.</i>
Cincinnati Tin and Japan Manufacturing Company, House- Furnishing Hardware.....	<i>Large Silver Medal.</i>
Cincinnati Tin and Japan Manufacturing Company, American Broiler.....	<i>Diploma.</i>
J. C. Hall & Co., Wardrobe Bedstead.....	<i>Diploma.</i>
E. L. Parris, Wooden Ware.....	<i>Small Silver Medal.</i>
French & Myers, Ornamental Wood Work.....	<i>Diploma.</i>
Snowdon & Otte, Carpets and Curtains.	<i>Diploma.</i>
A. C. Richards, Furniture.....	<i>Gold Medal.</i>
A. C. Richards, Folding Bed Lounge.....	<i>Diploma.</i>
Lewis Massman, Sr., Enameled Ware.....	<i>Large Silver Medal.</i>
Julius Balke, Billiard Table and Fixtures.....	<i>Large Silver Medal.</i>
Dolph, Brown & Co., Bureau Frames and Standers.....	<i>Diploma.</i>
J. C. Ringwalt & Co., Druggets, Mats, and Rugs.....	<i>Diploma.</i>
Waters & Barrett, White Pine, Ash and Cedar Cooper Ware.....	<i>Diploma.</i>
C. S. Rankin & Co., Marbleized Iron Mantel... ..	<i>Large Silver Medal.</i>
H. M. Diggins, Refrigerator.....	<i>Diploma.</i>
J. M. Brunswick & Bro., Billiard Table and Cue Rack.....	<i>Diploma.</i>
VanName & Co., Mangle.....	<i>Diploma.</i>
Queen City Wringer Company, Wringer.....	<i>Diploma.</i>
Joseph Foster, Marble Mantels and Wash Stand.....	<i>Large Silver Medal.</i>
E. D. Albro & Bro., Veneering.....	<i>Diploma.</i>
Mitchell & Rammelsberg Furniture Company, Furniture.....	<i>Large Silver Medal.</i>
A. D. Bullock & Co., Curled Hair.....	<i>Diploma.</i>
Mueller & Henning, Marble Mantels.....	<i>Diploma.</i>
M. Greenwood & Co., Household Articles.....	<i>Diploma.</i>
H. C. Richards, Corner Protector for Houses.....	<i>Diploma.</i>
Leland & Berry, Spring Slats.....	<i>Diploma.</i>
C. B. Evans & Co., Marbleized Slate Mantels.....	<i>Large Silver Medal.</i>
G. D. Winchell, Upson & Co., Japan and Painted Ware.....	<i>Diploma.</i>
A. J. & G. W. M. Vandegrift, Coffee and Spice Mill.....	<i>Diploma.</i>

CLASS 12.

Glass, Earthen and Stone Ware.

JUDGES:

H. D. HUNTINGTON.

J. B. C. MOORES.

D. H. HUNNEWELL.

No.	Exhibitor.	Residence.	Articles Exhibited.
454	Frederick Dallas.....	Cincinnati, O.....	C. C. and White Granite Ware and Yellow R. Ware.
574	S. R. Ross.....	"	Fire Bricks.
622	Pollock & Bailey.....	"	Earthen Ware.
647	John Matthews.....	New York City	Glass Syphon Bottle.
662	J. C. Dexter.....	Cincinnati, O.....	Cement Drain Pipe.
681	John A. Mohlenhoff.....	"	Glass and China Ware.
747	Tempest, Brockman & Co	"	C. C. and Granite Ware.
914	F. Schultze & Co.....	"	French China, Foreign Glass Ware, and Bronzes.
1016	L. Wiegel & Co.....	"	Glass Show Cases.
1084	Hemingray Glass Co.....	"	Glass Ware.
1615	Clarke & Bros.....	"	Stone Ware Pipe.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges appointed by you for the inspection of glass, earthen, and stone ware, have to report that they have examined the several articles on exhibition under those heads:

Lot No. 454. Earthen and yellow ware, exhibited from the manufactory of Mr. FRED. DALLAS, on Hamilton road, is deserving of much praise. The gloss and beauty of his glazing is fully equal and we think surpasses any of the other goods of similar and same styles we examined, and the body of the goods are of good and firm quality, equal to any thing in the Exhibition. The yellow and Rockingham ware are of as durable a body and equal for service to any exhibited to us.

Lot No. 622. Yellow and Rockingham ware from the manufactory of Messrs. POLLOCK & BAILEY of this city, is of

equal body and durability of that from Mr. Dallas, and the finish and smoothness of the glaze we find superior to his, and would accord to them the preference.

Lot No. 747. White granite and C. C. earthen ware from the manufactory of Messrs. TEMPEST, BROCKMAN & Co., of this city, are deserving of much praise and credit, and while we give the preference to the soft and glossy appearance of the glaze of Mr. Dallas' manufacture, we find the finish and smoothness of Messrs. TEMPEST, BROCKMAN & Co's. samples superior to those of Mr. Dallas (a very important matter in the utility of this description of goods), and their C. C. or white common goods are of a very superior style, shape, and finish to any we have knowledge of manufactured in this country, and we have to accord to them our preference to any other goods of similar style that we examined. This class of manufactures are particularly worthy of the special notice of your Committee; though at present almost in its infancy in our country, it is destined to become of great importance. All the articles essential for its manufacture are products of our country, and are in great abundance in various parts of it and equal to those found in any other portion of the world, and while we are importing from seventy to one hundred thousand packages a year, we believe from the success already achieved, that we may look forward to a not distant time when the manufacturers of our own country will produce a quantity equal to that which we now import, and with careful attention by the manufacturers to the finish of their goods, equal to that now produced in other countries from which we are now receiving our principal supply. It is well worthy of individual and governmental patronage. The extent of this class of manufactures in our country is already much greater than is generally known.

Lot No. 574. Fire brick in our list, and we presume on exhibition from Mr. S. R. Ross, we did not see, and therefore can not express our opinion of them except from their known reputation. We have reason to presume they are of good quality, handsome, and durable.

Lot No. 647. Syphon bottle, from Mr. JOHN MATTHEWS, we could not find after diligent search.

Lot No. 662. Twenty pieces of cement drain pipe, the only article of the kind we found on exhibition, was heavy, hard, and to appearance very durable, and we should feel warranted in recommending it for the purpose it is intended.

Lot No. 681. French china, earthen ware, rich Bohemian and china vases, and heavy, rich, cut glass, was very extensive and beautiful; and we would say that Mr. JOHN A. MOHLENHOFF, dealer in these goods on Fifth street, is entitled to great credit for so large a contribution to adorn and beautify the Exposition.

Lot No. 914. From the extensive establishment of F. SCHULTZE & Co., Fourth street, of decorated Bohemian glass and fine specimens of French, English, and German glasses, was particularly attractive for their quality, workmanship, and design.

Lot No. 1016. Show cases from L. WEIGEL & Co., were not exhibited to us.

Lot. No. 1615. CLARK & Bros., stone ware drain pipe. Was fine smooth finish, hard and well burnt, and to all appearance a durable and desirable article to all in want of such.

Lot No. 1084. Glass ware from the HEMINGRAY GLASS COMPANY, of Covington (store on Walnut street), was extensive, and the articles useful and of good manufacture. The establishment has long been favorably known and does not require any special notice from your Judges.

The china ware exhibited from the old and well known establishment of J. C. HUNTINGTON & Co., was of very superior elegance. The quality and style of the tea ware was especially attractive, surpassing any other we were called upon to examine.

Respectfully,

H. D. HUNTINGTON,
JOHN B. C. MOORES,
D. W. HUNNEWELL.

AWARDS.

Frederick Dallas, C. C. and White Granite Ware.....*Large Silver Medal.*
 Pollock & Bailey, Yellow, or Rockingham Ware..*Diploma.*
 J. C. Dexter, Cement Drain Pipe.....*Diploma.*
 John A. Mohlenhoff, Display of Glass and China Ware.....*Diploma.*
 Tempest, Brockman & Co., C. C. and White Granite Ware...*Large Silver Medal.*
 F. Schultze & Co., Display of China, Glass Ware, and Bronzes.....*Diploma.*
 Hemingray Glass Company, Glass Ware.....*Large Silver Medal.*
 Clarke Bros., Stone Ware Pipe.....*Diploma.*

CLASS 13.

Manufactures of Silk, Cotton, Flax, and Wool.

JUDGES:

GEO. W. JONES.

J. E. WYNNE.

EDWARD TAYLOR, JR.

No.	Exhibitor.	Residence.	Articles Exhibited.
338	Samuel Fosdick.....	Cincinnati, O.....	Standard Unbleached Sheet- ^{[ing.}
351	Tangeman & Hubner....	Lockland, O.....	Woolen Yarn.
352	Hooven & Allison.....	Xenia, O.....	Twines and Cordage.
394	E. H. Sparks.....	Nicholasville, Ky....	Hemp.
405	LeClercq Bros.....	Gallipolis, O.....	Jeans.
414	Stewart & Grimes.....	Dayton, O.....	Cotton Warps.
447	C. Campbell.....	Cincinnati, O.....	Compressed and Uncompress- ed Cotton (Ex. only).
460	Pickering & Miller.....	".....	Fringes, Tassels, etc.
512	J. L. Douglass.....	St. Louis, Mo.....	Flax Bagging.
513	J. H. Goodheart & Co....	Cincinnati, O.....	Bale of Cotton.
542	Gould, Pearce & Co.....	".....	Seamless Cotton Bags, Rope, Warp, Batting and Twine.
561	J. H. & T. Jouvét.....	".....	Silk Threads.
588	Nonotuck Silk Co.....	New York City.....	Sewing and Twist Silk.
600	Holmes, Bell & Co.....	Pittsburg, Pa.....	Brown Sheetings and Mus- lins.
601	Eagle Cotton Mills.....	".....	Brown Sheetings.
602	John J. Mayers.....	Dayton, O.....	Flax Bagging.
603	Delaware Manufactur- ing Co.....	Delaware, O.....	Flax Bagging.
604	S. & M. Walton.....	Spring Valley, O....	Flax Bagging.
605	Camp & Randall.....	Warren, O.....	Flax Bagging and Tow.
621	Zanesville Woolen Man- ufacturing Co.....	Zanesville, O.....	Doeskin Jeans.
642	Cincinnati Worsted Co..	Cincinnati, O.....	Braids.
651	Chas. C. Jacobs.....	".....	Twines and Cordage.
655	Chas. S. Burns.....	".....	Cane Fiber.
694	L. C. Hopkins & Co.....	".....	Blankets, etc.
732	Singer Manufacturing Co.....	".....	Machine Twist.
751	Cincinnati Stocking Fac- tory.....	".....	Men's and Ladies' Half-hose.
873	Franklin Co.....	Lewiston, Me.....	Avondale Sheeting.
874	Camp & Randall.....	Warren, O.....	Bale of Tow.
966	Belding Bros. & Co.....	Cincinnati, O.....	Sewing Silks, Machine and Button Twist.
983	Macon Mills.....	Macon, Ga.....	Sheeting.
984	Eagle and Phoenix Mills	Columbus, Ga.....	Excelsior Checks.
985	Eagle and Phoenix Mills	".....	Black Warp.
986	Dover Mills.....	Dover, Ky.....	Jeans.

CLASS 13.—MANUFACTURES OF SILK, COTTON, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
987	J. M. Clark & Co.....	Cincinnati, O.....	4-4 and 7-8 Sheetings.
988	J. M. Clark & Co.....	"	Sheetings and Drills.
991	Princeton Mills.....	Athens, Ga.....	Cotton Yarns.
992	Middleport Mills.....	Middleport, O.....	Zephyr and Solferino Yarns.
994	Middleport Mills.....	"	Jeans.
995	Lacon Mills.....	Lacon, Ga.....	Ottoman, Reversible, and Plaid Shawls.
996	Lacon Mills.....	"	High Colored and Drab Shawls.
997	Lacon Mills.....	"	Striped and Extra Shawls.
998	Lacon Mills.....	"	Drab and Scotch Plaid Shawls.
999	Lacon Mills.....	"	High Colored and Brown Shawls.
1000	Lacon Mills.....	"	High Colored and Gray Mix- ed Shawls.
1002	Lacon Mills.....	"	Striped and Black and White Shawls.
1003	Lacon Mills.....	"	Highly Colored Shawls.
1043	A. F. Gibboney	Belleville, Pa.....	Cotton and Wool Carriage Robes.
1085	Hulburt Bros. & Co.....	Cincinnati, O.....	Carriage Robe.
1099	Lawrenceburg Woolen Manufacturing Co.....	Lawrenceburg, Ind..	Fancy Cassimeres.
1167	Stearns & Foster.....	Cincinnati, O.....	Cotton Wadding.
1173	Waverly Mills.....	Philadelphia, Pa....	Yarns (Exhibition only).
1179	John Clark, Jr. & Co....	New York City	Spool Cotton.
1292	Kendall & Coney	Sidney, O.....	Flax.
1524	Owens & Tinsley.....	Eminence, Ky.....	Jeans.
1526	Mission & Pacific Woolen Mills Consolidated.....	San Francisco, Cal..	Bed and Traveling Blankets and Robes.
1527	Batesville Manufactur'g Co.....	Charleston, S. C.....	Brown Muslins.
1528	Bowling Green Woolen Manufacturing Co.....	Bowling Green, Ky.	Jeans.
1551	Wilcoxon Manufactur'g Co.....	Newman, Ga.....	Yarns.
1603	Oldham & Scott Cotton Mills.....	Lexington, Ky.....	Cotton Yarns.
1604	Oldham & Scott Cotton Mills.....	"	Pound Yarns.
1605	Oldham & Scott Cotton Mills	"	Coverlet and Carpet Warp.
1606	Eagle Cotton Mills..	Lawrenceburg, Ten.	Cotton Ropes and Yarns.
1607	Eagle Cotton Mills.....	"	Yarns.
1608	Franklin Cotton Mills...	Pittsburg, Pa.....	Colored and White Carpet Warps.
1609	Franklin Cotton Mills...	"	Yarns
1610	M. Bare & Co.....	Cincinnati, O.....	Yarns, Skirts, Seine Twine, and Patent Buckshot.
631	Putnam, Hooker & Co....	"	Cotton Yarns, Twines, etc.
397	Geo. Miller.....	"	Men's Half Hose, dark gray.

CLASS 13.—MANUFACTURES OF SILK, COTTON, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
398	Geo. Miller.....	Cincinnati, O.....	Men's Half Hose, dark gray, assorted tops.
399	Geo. Miller.....	"	Men's Half Hose, light gray.
400	Geo. Miller.....	"	Men's Half Hose, violet.
401	Geo. Miller.....	"	Men's Half Hose, assorted colors.
402	Geo. Miller.....	"	Ladies' Hose.
403	Geo. Miller.....	"	Misses' Hose and Mittens.
1687	Urbana Woolen Mills....	Urbana, O.....	Tweeds, Summer Cassimeres, and Plaid Flannels.
1690	S. D. Welch & Sons.....	Philadelphia, Pa.....	Wool Clipping Carpet.
1709	F. Vonderheide.....	Cincinnati, O.....	Twines.
1712	Ebenezer Ware.....	Waukegan, Mich....	Fine Wools (Exhib. only).
1714	Andrew McFarland.....	New Athens, O.....	American Merino Wool (Exhibition only).
1718	Mr. Waite.....	Massachusetts.....	Horse Covers.
1719	Addy, Hull & Co.....	Cincinnati, O.....	Bale of Cotton.
	Crescent Cotton Mills....	Pulaski, Tenn.....	Muslins and Yarns.
1720	Jas. Smith & Co.....	Philadelphia, Pa.....	Card Clothing.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition :

GENTLEMEN :—The Committee in Class No. 13, having performed the duties devolving on it, respectfully make the following report :

No. 338. To SAMUEL FOSDICK (the Franklin factory), of Cincinnati, we award *premium* for best standard sheetings.

No. 983. To the MACON MILLS, of Georgia, *premium* for best sheeting of the second grade.

No. 600. To the Glencoe sheeting, made by HOLMES, BELL & Co., *premium* for best medium sheeting.

No. 600. To the Ohio Valley sheetings, made by HOLMES, BELL & Co., Pittsburg, *premium* for best lining muslin.

No. 873. To the Avondale sheeting, made by the FRANKLIN MILLS, Lewiston, Maine, *premium*, and especial notice for fine sheeting.

No. 1527. To the BATESVILLE MANUFACTURING Co., Charleston, S. C., sheeting, *premium* for best three-quarter muslin.

No. 351. To TANGEMAN & HUBNER, of Lockland, Ohio, *premium* for best three-thread woolen yarn; and desire to call especial attention to variety and perfectness of colors.

No. 992. To the MIDDLEPORT WOOLEN MILLS, *premium* for best zephyr yarn; the colors being very creditable.

No. 394. To E. H. SPARKS, Nicholasville, Ky., *premium* for best bale of hemp.

No. 414. To STEWART & GRIMES, *premium* for best warp.

No. 542. To GOULD, PEARCE & Co., *premium* for best cotton twine.

No. 460. To PICKERING & MILLER, *especial premium* for exhibition of fringes and tassels of their manufacture, the extreme richness of this new work reflecting great credit on their skill and enterprise.

No. 605. To CAMP & RANDALL, *premium* for best flax bagging.

No. 642. To CINCINNATI WORSTED Co., *premium* and especial notice for goods and display.

No. 751. To CINCINNATI STOCKING FACTORY, *premium* for best woven stockings.

No. 397 to 403. To GEORGE MILLER, *premium* for best knitted stockings.

No. 605. To CAMP & RANDALL, *premium* for best tow.

No. 966. To BELDING BROS. & Co., *premium* for best sewing silks.

No. 588. To the NONOTUCK SEWING SILK Co., *premium* for display of the same and quality of the same. Second best.

No. 561. To JOUVET & Co., complimentary notice for display, and *premium* for silk made from raw silk, raised by the Shakers of Union Village, Ohio.

No. 984 To the EAGLE & PHOENIX MILLS, *premium* for apron checks.

No. 994. To the MIDDLEPORT WOOLEN MILLS, *premium* for best doeskin jeans.

No. 405. To LECLERCQ BROS., *premium* for best common jeans, of the first class.

No. 986. To the DOVER MILLS, *premium* for best common jeans of the second class.

No. 995. To LACON MILLS, *premium* for best shawls.

No. 1043. To A. F. GIBBONEY, *premium* for carriage robes.

No. 1085. To HULBURT BROS. & Co., *premium* for knitted carriage robe.

No. 1167. To STEARNS & FOSTER, *premium* for best wadding.

No. 1179. To JOHN CLARK JR. & Co., especial notice for display of spool cotton.

No. 1526. To MISSION & PACIFIC MILLS, California, *premium* for best bed-blankets and lap-robe carriage-blankets. These blankets are beyond comparison superior, and recommend themselves.

No. 694. To L. C. HOPKINS & Co., especial notice for display of blankets.

No. 1551. To WILCOXAN MANUFACTURING Co., *premium* for best knitting yarn; also, *premium* for best weaving cotton yarn.

No. 1606. To EAGLE COTTON MILLS, of Lawrenceburg, Tenn., *premium* for best cotton rope.

No. 1608. To FRANKLIN COTTON MILLS, of Pittsburg, *premium* for best batting.

No. 1687. To URBANA WOOLEN MILLS, *premium* for best wool flannels. The tweeds from this mill are creditable.

No. 1690. To S. D. WELCH & SONS, *premium* for novelty in carpets.

No. 447. To C. CAMPBELL, *premium* for exhibition of compressed cotton.

No. 655. To CHARLES S. BURNS, *premium* for exhibition of cane fiber.

The Committee being unable to decide, recommend an equal *premium* and notice to :

Nos. 1609 and 542—FRANKLIN MILLS, of Pittsburg, and GOULD, PEARCE & Co., of Cincinnati—for best colored cotton carpet warp.

No. 1709. To F. VONDERHEIDE, *premium* for best hemp and flax twine and cordage.

No. 352. To HOOVEN & ALLISON, of Xenia, especial notice for display of twine and cordage, and for fishing line and shoe thread.

No. 1719. To ADDY, HULL & Co., *premium* for best bale of cotton.

No. 1718. To WAITE's patent horse-blanket, *premium*.

No. 1714. To ANDREW MCFARLAND, Harrison Co., Ohio, *premium* for best Merino wool.

To B. F. TURNER & Co., *premium* for very creditable display of fancy dry goods.

No. 1610. To M. BARE & Co., *premium* for buckshot; also, *premium* for Balmoral skirts.

No. 1631. To PUTNAM, HOOKER & Co., especial notice for display of yarns, twine, etc.

No. 1099. To the LAWRENCEBURG WOOLEN MANUFACTURING Co., especial notice and *premium* for cassimeres; the cassimeres being equal to any foreign and sustaining the high reputation of this mill.

No. 1528. BOWLING GREEN WOOLEN MILLS, Bowling Green, Ky., *premium* for display of assorted colors jeans.

No. 542. GOULD, PEARCE & Co., *premium* for seamless cotton grain bags.

Respectfully,

GEO. W. JONES,
J. E. WYNNE,
EDWARD TAYLOR, JR.

SUPPLEMENTARY REPORT

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—There has been a misunderstanding in regard to our intentions in report for Class No. 13:

No. 966. BELDING BROS. & Co. are entitled to a silver medal, being enterprising manufacturers; and we, after a long and careful examination, award them premium for best.

No. 1099. LAWRENCEBURG WOOLEN MILLS are ranked among the largest corporations in America, having invested nearly one million dollars; the goods from which are always sold ahead in New York.

Nos. 992 and 994. MIDDLEPORT WOOLEN MILLS are entitled to a very complimentary medal, having made goods (doeskin jeans) finer than any such goods were ever made, being thirty per cent. finer than those of the Fairmount Woollen Mills. Also, a special medal should be given this mill for zephyr yarns. This is a special production, just commenced in the West, and strikingly successful.

Nos. 995 to 1003. LACON SHAWL MILLS are certainly entitled to a value premium. The manufacture is equal to any made in the world, in fact their striped shawls are the handsomest for sale this season. The controllers of the mill have been induced to make this market a regular agency for the sale of their goods—giving character to this market, and any encouragement you can give will aid our mercantile interest.

Respectfully,

GEO. W. JONES,

J. E. WYNNE,

EDWARD TAYLOR, JR.

AWARDS.

Samuel Fosdick, Standard Unbleached Sheetings.....	<i>Large Silver Medal.</i>
Tangeman & Hubner, Woolen Yarn.....	<i>Diploma.</i>
Hooven & Allison, Twines and Cordage.....	<i>Diploma.</i>
E. H. Sparks, Hemp.....	<i>Diploma.</i>
LeClercq Brothers, Jeans.....	<i>Diploma.</i>
Stewart & Grimes, Cotton Warps.....	<i>Diploma.</i>
Pickering & Miller, Fringes, Tassels, etc.....	<i>Large Silver Medal.</i>
Gould, Pearce & Co., Cotton Twines and Small Cordage.....	<i>Diploma.</i>
Gould, Pearce & Co., Seamless Cotton Bags.....	<i>Diploma.</i>
J. H. & T. Jouvett, Silk Threads.....	<i>Diploma.</i>
Nonotuck Silk Company, Sewing Silk and Twist.....	<i>Diploma.</i>
Holmes, Bell & Co., Medium Sheetings.....	<i>Diploma.</i>
Camp & Randall, Flax Bagging and Tow.....	<i>Diploma.</i>
Cincinnati Worsted Company, Braids.....	<i>Large Silver Medal.</i>
Charles S. Burns, Cane Fiber.....	<i>Diploma.</i>
L. C. Hopkins & Co., Display of Blankets.....	<i>Diploma.</i>
Cincinnati Stocking Factory, Woven Stockings.....	<i>Diploma.</i>
Franklin Company, Avondale Sheetings.....	<i>Diploma.</i>
Belding Bros. & Co., Sewing Silks.....	<i>Large Silver Medal.</i>
Macon Mills, Sheeting.....	<i>Diploma.</i>
Eagle & Phoenix Mills, Excelsior Checks.....	<i>Diploma.</i>
Dover Mills, Jeans.....	<i>Diploma.</i>
Middleport Mills, Zephyr Yarns.....	<i>Diploma.</i>
Middleport Mills, Doeskin Jeans.....	<i>Large Silver Medal.</i>
Lacon Mills, Shawls.....	<i>Large Silver Medal.</i>
A. F. Gibboney, Cotton and Wool Carriage Robes.....	<i>Diploma.</i>
Hulbert Bros. & Co., Carriage Robes.....	<i>Diploma.</i>
Lawrenceburg Woolen Manufacturing Company, Cassimeres.....	<i>Large Silver Medal.</i>
Stearns & Foster, Cotton Wadding.....	<i>Diploma.</i>
John Clark Jr. & Co., Spool Cotton.....	<i>Diploma.</i>
Mission and Pacific Woolen Mills, Blankets and Lap Robes.....	<i>Gold Medal.</i>
Batesville Manufacturing Company, Muslins.....	<i>Diploma.</i>
Bowling Green Woolen Manufacturing Company, Jeans.....	<i>Diploma.</i>
Wilcoxon Manufacturing Company, Knitting and Cotton Yarns.....	<i>Diploma.</i>
Eagle Cotton Mills, Cotton Ropes.....	<i>Diploma.</i>
Franklin Cotton Mills, Colored Carpet Warp and Batting.....	<i>Diploma.</i>
M. Bare & Co., Balmoral Skirts and Patent Buckshot.....	<i>Diploma.</i>
Putnam, Hooker & Co., Display of Cotton Yarns, Twines, etc.....	<i>Diploma.</i>
George Miller, Knitted Stockings.....	<i>Diploma.</i>
Urbana Woolen Mills, Flannels.....	<i>Diploma.</i>
S. D. Welch & Sons, Wool Clipping Carpet.....	<i>Diploma.</i>
Addy, Hull & Co., Bale of Cotton.....	<i>Diploma.</i>
Mr. Waite, Horse Covers.....	<i>Diploma.</i>
F. Vonderheide, Hemp and Flax Twines and Cordage.....	<i>Diploma.</i>
Gould, Pearce & Co., Colored Cotton Warps.....	<i>Diploma.</i>
Andrew McFarland, American Merino Wool.....	<i>Diploma.</i>

CLASS 14.

Clothing and Furnishing Goods, Hats, Caps, and Furs.

JUDGES:

PHILIP HEIDELBACH.

HENRY S. POGUE.

WILLIAM DODD.

No.	Exhibitor.	Residence.	Articles Exhibited.
375	American Moulded Collar Co	Boston, Mass.....	Paper Collar and Cuffs.
455	G. W. Hendley	Cincinnati, O.....	Hats, Caps, and Furs.
517	H. H. Stuckenberg.....	"	Shirt Fronts.
519	Locke & Wise.....	"	Paper Collars.
520	Shelt Bros.....	"	Neckties.
583	A. J. Clark & Co.....	"	Gents' Furnishing Goods.
584	A. J. Clark & Co.....	"	Berry's Patent Collars and Cuffs.
1640	A. J. Clark & Co.....	"	Shirts.
1641	A. J. Clark & Co.....	"	Men's Neckware.
609	Chas. E. Remelin.....	"	Hats and Caps.
716	J. P. Love.....	"	Corsets.
989	J. P. Love.....	"	Corsets.
758	B. F. Coan.....	"	Hats, Caps, and Furs.
776	Isaac F. Smith.....	"	Gents' Furs and Walking Canes.
777	Geo. Thill & Co.....	"	Hats, Caps, and Furs.
	Geo. Thill & Co.....	"	Gloves.
778	A. E. & F. B. Burkhardt	"	Hats and Furs.
944	John C. Buerkle.....	"	Furs.
1283	John C. Buerkle.....	"	Ladies' and Gentlemen's Furs and Skins.
1701	John C. Buerkle.....	"	Russian Seal Cloak.
1284	John C. Buerkle.....	"	Robes.
974	J. H. Richter.....	"	Boys' Clothing.
1045	Wm. H. Kirby.....	"	Gloves.
1094	Nichols, Burtnett & Co...	New York City.....	Furs.
1109	B. Placke & Co.....	Cincinnati, O.....	Silk Hats.
1130	Jeffras, Seeley & Co.....	"	Velvet, Satin, and Silk Ribbons (Ex. only).
1131	Jeffras, Seeley & Co.....	"	Feathers, Birds, and Kid Gloves (Ex. only).
1132	Jeffras, Seeley & Co.....	"	Cloaks and Cloakings (Ex. only).
1174	G. W. Tarr & Co.....	"	Woolen Gloves and Pulse Warmers.
1178	Robert Leslie.....	"	Gents' Furnishing Goods.
1214	J. F. Moorbrink.....	"	Coat.
1248	Daniels & Coombe.....	"	Clothing and Furnishing Goods.

CLASS 14.—CLOTHING AND FURNISHING GOODS, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1513	Taylor, Miller & Co.....	Cincinnati, O.....	Ladies', Gents', and Children's Furnishing Goods.
1529	Dunlap & Co.....	New York City.....	Opera Hats.
1530	Rhamir & Co.....	".....	Cloth Hats and Caps.
1582	W. C. Bassenhorst.....	Cincinnati, O.....	Overcoat (Ex. only).
1692	H. M. Silverman.....	New York City.....	Furs.
1693	Wm. Ewing.....	".....	Hats.
1697	Wm. Ewing.....	".....	Hats.
1694	E. Morris & Co.....	Philadelphia, Pa.....	Hats.
1696	E. Morris & Co.....	".....	Hats.
1695	L. J. Phillips & Co.....	New York City.....	Furs.
1698	Pickard & Wood.....	Cincinnati, O.....	Hats.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The undersigned Committee appointed to report on the merits of articles entered as Class 14, having made a careful examination, beg leave to submit the following as the result of their labors:

No. 375. AMERICAN MOULDED COLLAR COMPANY, as manufacturers of paper collars and cuffs, are entitled to *first degree of merit*.

No. 519. LOCKE & WISE, as manufacturers of paper collars, are entitled to *first degree of merit* for medium and low priced goods.

No. 517. H. H. STUCKENBERG, as manufacturer of linen shirt fronts, makes a fine display, and is worthy of award for superior workmanship and an improvement in manufacture. No competitor.

Nos. 716 and 989. J. P. LOVE, as manufacturer of ladies' corsets, makes a fine display of superior goods and worthy of notice for fine workmanship and finish. No competitor.

No. 1640. A. J. CLARK, as manufacturer of gentlemen's shirts, is worthy of award for best quality and style, and makes best display of furnishing goods.

No. 776. ISAAC F. SMITH, as manufacturer of gentlemen's shirts, is worthy of notice for superior workmanship on shirts with puffed and embroidered fronts, and for good display of furnishing goods and walking canes.

No. 1178. ROBERT LESLIE, gentlemen's furnishing goods; makes a very attractive display of fine goods in this line, and worthy of notice.

No. 1641. A. J. CLARK, gentlemen's scarfs; as manufacturer shows the finest quality and best styles entered for competition. Worthy of notice.

No. 520. SHELT BROTHERS, gentlemen's neckties; as manufacturers exhibit a good variety. Are worthy of notice for an improvement in fastenings.

No. 974. J. H. RICHTER, boy's clothing; as manufacturer show best goods in material and finish, and finest display.

No. 1214. J. F. MOORBRINK, one gentleman's overcoat; entitled to *first merit* for best material and workmanship.

Nos. 1694 and 1696. E. MORRIS & Co., Philadelphia, gentlemen's silk hats; as manufacturers worthy of *first degree of merit* for best quality and finish.

No. 1695. L. J. PHILLIPS & Co., New York, ladies' furs; as manufacturers exhibit the finest quality of Russian sable and mink goods.

No. 1094. NICHOLS, BURNETT & Co., New York, ladies' furs; as manufacturers exhibit the finest quality of Hudson Bay sable and ermine goods.

No. 1283. JOHN C. BUERKLE, ladies' and gentlemen's furs and fur robes; as manufacturer makes a fine display. Worthy of notice.

No. 1045. W. H. KIRBY, gloves; as manufacturer displays a good variety. No competitor. Worthy of notice.

Nos. 1130 to 1132. JEFFRAS, SEELEY & Co., as exhibitors, display an attractive variety of velvet, satin, and silk ribbons, kid gloves, cloaking, and ladies' cloaks. Worthy of notice. Being imported are for exhibition only.

No. 609. CHAS. E. REMELIN, as exhibitor of hats, caps, and furs, makes a very attractive display of fine goods in this line, and worthy of notice.

No. 778. A. E. & F. BURKHARDT, as exhibitors of hats, caps, and furs; make a very attractive display of fine goods. Worthy of notice.

No. 758. B. F. COAN, as exhibitor of hats, caps, and furs, makes a good display of fine goods. Worthy of notice.

No. 777. GEORGE THILL & Co. exhibit hats, caps, and furs, also as manufacturers of fur hoods. Make a fine display, and worthy of notice.

No. 455. G. W. HENDLEY, as exhibitor of hats, caps, and furs, makes an attractive display, and worthy of notice.

Respectfully,

HENRY POGUE,
PHILIP HEIDELBACH,
WM. DODD.

SUPPLEMENTARY REPORT.

To the General Committee Cincinnati Industrial Committee:

GENTLEMEN:—The undersigned desire to make a supplementary report: In our opinion the DUNLAP & Co. hats, entered by CHAS. E. REMELIN for competition, are equal in quality and finish to those made by E. Morris & Co., and being made on a different body are a little different class, and entitled to same degree of merit. Also, CHAS. E. REMELIN's display of hats, caps, and furs, is the finest of this class.

Also, desire to make special mention of improved fastening on gentlemen's neckties, manufactured by SHELT BROTHERS, and consider this worthy of award.

Also, A. E. & F. BURKHARDT are entitled to second merit for display of hats, caps, and furs.

Respectfully,

PHILIP HEIDELBACH,
HENRY POGUE.

AWARDS.

American Moulded Collar Co., Paper Collars and Cuffs.....	Diploma.
H. H. Stuckenberg, Linen Shirt Fronts.....	Diploma.
Locke & Wise, Paper Collars.....	Diploma.
Shelt Bros., Neckties.....	Diploma.
Chas. E. Remelin, Display of Hats, Caps, and Furs.....	Diploma.
J. P. Love, Corsets.....	Diploma.
A. E. & F. B. Burkhardt, Display of Hats, Caps, and Furs.....	Diploma.
John C. Buerkle, Furs.....	Large Silver Medal.
J. H. Richter, Boys' Clothing.....	Diploma.
W. H. Kirby, Gloves.....	Diploma.
Nichols, Burtnett & Co., Hudson Bay Sables and Ermines...	Large Silver Medal.
Robert Leslie, Gents' Furnishing Goods.....	Diploma.
Dunlap & Co., Hats.....	Diploma.
A. J. Clark & Co., Shirts and Furnishing Goods.....	Diploma.
E. Morris & Co., Silk Hats.....	Diploma.
L. J. Phillips & Co., Russian Sables and Mink Goods.....	Large Silver Medal.

CLASS 15.

Marine Articles.

JUDGES:

JAC. TRABER.

HENRY A. JONES.

No.	Exhibitor.	Residence.	Articles Exhibited.
587	John Bonte's Sons.....	Cincinnati, O.....	Cordage, Anchor, and Capstan.
692	F. Vonderheide.....	"	Manilla Hemp, Tarred Cotton Lines and Ropes.
1231	Warden, McClelland & Co.....	"	Union Power Capstan.
1232	Dr. Reims.....	Springfield, O.	Hydrostatic Scale.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—In accordance with your notice of our qualification as Judges, and your instructions, we have proceeded to examine the articles in Class 15 (Marine Articles), and beg to submit to you the following as the result of our investigations and judgment:

First. We have not applied machinery to test the strength of ropes or lines. We have examined the quality of the fiber used, the correctness with which it is laid, the uniformity and correctness of twist, and the general external appearance of the goods. We judge the hemp-packing yarn by the same rule as above. While we would wish to make honorable mention of the good qualities in all the goods exhibited under the No. 692, by F. VONDERHEIDE, manufactured by the Covington (Ky.) Steam Rope and Twine Factory, we would give to the ropes, lines, and packing yarn exhibited under the No. 587, by JOHN BONTE'S SONS, the preference.

No. 587. Small iron anchor; no competition. Good. Common capstan. Good.

Union power capstan, exhibited under No. 1231, by WAR-
DEN, McCLELLAND & Co., is a first-class machine; more power,
less friction, safe, and more convenient than any capstan we
have seen.

No. 1232. Dr. Reims' champion boat scale, is a device
for ascertaining the weight of water-craft and cargoes when
afloat. This instrument is cheap, durable, and accurate when
properly applied. It can be used on any boat to determine
its draught of water. We highly recommend it as being uni-
versally worthy of attention.

JAC. TRABER,
H. A. JONES.

AWARDS.

John Bonte's Sons, Ropes, Lines, and Packing Yarn.....	<i>Large Silver Medal.</i>
Warden, McClelland & Co., Union Power Capstan.....	<i>Diploma.</i>
Dr. Reims, Hydrostatic Scale.....	<i>Diploma.</i>
F. Vonderheide, Manilla Hemp, Tarred Cotton Lines and Rope.....	<i>Diploma.</i>

CLASS 16.

Chemicals, Paints, Oils, Soaps, and Candles.

JUDGES:

DR. J. S. UNZICKER.

PROF. E. S. WAYNE.

CHARLES C. REAKIRT.

No.	Exhibitor.	Residence.	Articles Exhibited.
373	W. C. Huntington.....	Cincinnati, O.....	Mineral, Sperm, and Astral Coal Oil.
404	Carret & Langenbeck....	"	Baking Powder.
411	O. F. Gordon	"	Chemicals.
426	Smith & Sterrett	"	Vegetable Oils.
427	Maxwell, Long & Co.....	Dayton, O.....	Standard and Family Soap.
428	Maxwell, Long & Co.....	"	Laundry and Silver Mountain Soap.
457	J. J. Butler.....	Cincinnati, O.....	Inks and Mucilage.
458	Thos. S. Butler.....	"	Blackening.
464	John Bailie & Co.....	"	Baking Powder.
471	G. C. Watson.....	"	Corks.
475	Wm. S. Merrell & Co.....	"	Drugs and Chemicals.
484	A. Erkenbrecher.....	"	Starch.
490	Spear & Co.....	"	Coal Oil.
522	A. DeGraw.....	"	Baking Powder.
539	Alex. Fries & Bros.	"	Chemical Goods.
543	F. Deierlein & Co	"	French Mustard.
555	Gest & Atkinson.....	"	Lard Machine Oil.
560	Averill Chemical Paint Co	"	Samples of House Paints.
563	Hartmann, Laist & Co...	"	Chemicals.
568	Frazer Lubricator Co.....	"	Axle Grease.
570	Enoch Morgan & Sons...	New York City.....	Sapolio.
571	John Dwight & Co.....	"	Bicarbonate of Soda.
572	Hall & Ruckel.....	"	Flavoring Extracts.
631	A. McDonald & Co.....	Cincinnati, O.....	Oil and Starch.
632	A. McDonald & Co.....	"	Oil in Tin Cases and Drug Transportation Cans.
633	A. McDonald & Co.....	"	Axle Grease in Wood.
657	Jno. W. Sharpless & Co.	Philadelphia, Pa.....	Extract Logwood and Chemicals.
670	Chas. T. White & Co.....	New York City.....	Chemicals.
708	Janentzky & Co.....	Philadelphia, Pa.....	Artists' Materials.
710	L. O. Cameron.....	Cincinnati, O.....	Mixed and Gloss Paints.
711	Geo. Fox	"	Starch.
715	Goshorn Bros.....	"	White Lead.
726	Eagle White Lead Co....	"	Colored Paints, Oil, and White Lead.
735	Joseph Fromherz.....	"	Writing Fluid.
756	Jas. A. Frazer & Co.....	"	Groceries.
757	Davis, McKean & Co.....	Philadelphia, Pa.....	Refined Sugar.

CLASS 16.—CHEMICALS, PAINTS, OILS, SOAPS, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
759	Procter & Gamble.....	Cincinnati, O.....	Soap, Candles, and Lard Oil.
760	L. & J. W. Feuchtwanger	New York City	Chemicals.
774	Succop & Lips.....	Cincinnati, O	Roasted and Glazed Coffee.
785	Chapin, Sampson & Rogers.	"	Mustard.
802	E. J. Wilson & Co.....	"	Spices and Mustard.
807	R. M. Bishop & Co.....	"	Starch.
808	R. M. Bishop & Co.....	"	Soap and Horsford's Baking Preparation.
811	E. Berghausen & Co.....	"	Essences and Flavoring Ext.
823	Clarke & Taylor	"	Purified Linseed Oil for General Purposes and for Artists' Use.
824	Clarke & Taylor	"	Purified Cotton-Seed Oil.
825	Clarke & Taylor	"	White Lead.
826	Clarke & Taylor	"	Coach Varnish.
886	W. C. Peale & Bro.....	"	Artists' Materials and Colors.
890	Cooper, Stevenson & Co.	"	Glue. [Oils.
909	H. M. Merrell & Co.....	"	Fluid Extracts and Resin
962	A. G. Peck.....	"	Baking Powder, Soda, and Cream of Tartar.
978	John V. Lewis.....	"	Vegetable Oils.
1031	Cochran & Newport.....	"	Lubricating and Lard Oils.
1032	Eckstein, Hills & Co.....	"	White and Red Leads, and Paints.
1065	W. J. M. Gordon.....	"	Chemicals and Drugs.
109	M. Werk & Co.....	"	Soap and Candles.
1103	G. W. Gladden.....	"	Lubricating Oil.
1144	Michael Eckert.....	"	Glue.
1160	J. O. Stanage & Co.....	"	Vinegar.
1168	Marsh & Harwood.....	"	Oil of Vitriol. [Powder.
1169	Parker & Dixon.....	"	Mustard, Spices, and Baking
1172	Arons & Minor.....	"	Sponges.
1180	Kraft & Moore.....	Parkersburg, W. Va.	Pure Lubricating Oil.
1182	T. W. Sutton.....	Cincinnati, O.....	Baking Powder.
1212	G. D. V. Rollo & Co.....	"	Lubricating & Burning Oils.
1219	American Graphite Co...	New York City	Plumbago, for Lubricating Machines. [cating.
1221	American Graphite Co...	"	Plumbago Grease for Lubri-
1222	American Graphite Co...	"	Graphite Axle Grease.
1281	Charles Moser & Co.....	Cincinnati, O.....	White Lead, Zinc, and Paints.
1282	Charles Moser & Co.....	"	Artists' Colors.
1286	Joseph Dixon Crucible Company.....	Jersey City, N. J....	[Plumbago. Stove Polish, Pencils, and
1297	J. W. Whorton.....	Philadelphia, Pa....	Chemicals.
1507	Powers & Weightman....	"	Chemicals.
1649	C. C. Pruden.....	Athens, O.....	Crystalized Salt.
1651	J. W. Colton.....	Westfall, Mass.....	Flavoring Extracts.
1673	Price, Hine & Tupper....	New Orleans, La....	Louisiana Rock Salt.
1705	C. F. Moll.....	"	Carbonates of Potash.
1706	Baeder, Adamson & Co..	Cincinnati, O.....	Glue.
1707	Taylor, Strow & Co.....	Philadelphia, Pa....	Lead Crucibles.
1708	Arnold, Sturgis & Co....	New York City.....	Teas and Coffee.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges selected for Class 16, respectfully hand you our report upon the same; and, in doing so, would say that we have classified this multifarious section as follows:

FIRST.

Chemical Manufacture—General.

SECOND.

Pharmacy—Chemistry applied to the production of medicinal substances.

THIRD.

Technical Chemistry, or Special Chemistry—Applied to the industrial arts, including soaps, candles, oils, white lead, colored paints, patent paints, writing inks, blacking, starch, sugar, etc.

FOURTH.

Chemical Apparatus—Crucibles, etc., etc.

FIFTH.

Dietetics—Baking-powder, extract coffee, coffee, tea, etc.

SIXTH.

Condiments—Mustard, spices, ground and whole.

SEVENTH.

Natural Products—Minerals, ores, etc.

EXHIBITORS OF CHEMICALS—CLASS 1.

POWERS & WEIGHTMAN, of Philadelphia. This well-known and extensive chemical manufacturing firm exhibit the following list of preparations:

Acid, Acetic, s. g. 1.047.
 " Acetic, s. g. 1.040.
 " Acetic, Glacial.
 " Butyric.
 " Gallic.
 " Phosphoric, Dilute.
 " Prussic.

Alum, Burnt.
 " Ammonia, Ferric.
 Ammonia, Water, s. g. 960.
 " Water, s. g. 900.
 " Spirit.
 " Spirit Aromatic.
 " Nitrate, Crystals.

Ammonia, Nitrate, Fused.	Tannin.
“ Nitrate, Granular.	Vermillion.
“ Oxalate.	Baryta, Muriate.
Antimony, Butter of, (Solution.)	Bismuth, Citrate.
Arsenic and Mercury Iodide, Solution (Donovan's).	“ Ammonia Citrate, Solution.
Bark, Calisaya, Quill.	“ Tannate.
“ Red, Quill.	“ Valerianate.
“ Pitayo, Quill.	Calomel, Hydrosublimed.
Cadmium, Iodide.	Cinchonia.
“ Bromide.	“ Sulphate.
“ Sulphate.	Copper, Ammoniated.
Chloroform.	“ Arseniate.
Collodion.	“ Arsenite.
Codea, Sulphate.	“ Cyanide.
Corrosive Sublimate.	“ Nitrate.
Ether, Spirits Niter, U. S. P.	“ Black Oxide.
Hoffman's Anodyne.	“ Sulphate, Pure.
Iron, Alcoholized.	Kermes' Mineral.
“ Arseniate.	Lead, Iodide.
“ Carbonate Precipitate.	Magnesia, Calcined, Heavy.
“ Chloride Tincture.	Manganese, Bromide.
“ Ammonia Citrate.	“ Sulphate.
“ and Quinine Citrate.	Mercury, Cyanide.
“ Iodide Syrup.	“ Iodide.
“ Pernitrate.	“ Subsulphate.
“ Perchloride, Solution.	“ with Chalk.
“ Phosphate.	Morphia, Sulphate.
“ Pyrophosphate.	“ Acetate.
“ Sesqui Chloride, Solution.	“ Muriate.
“ Sulphate.	Oil Black Pepper.
“ Subsulphate.	“ Cloves.
“ Sulphate, Solution.	“ Copaiba.
“ Ammonia, Prot. Sulphate.	“ Cubebs.
“ Tersulphate.	“ Ergot.
“ Valerianate.	“ Pimenta.
Potassa, Bicarbonate.	Quinine, Sulphate.
“ Hypophosphite.	“ Acetate.
Potassium, Bromide.	“ Ferrocyanide.
“ Cyanide, Fused.	Quinidia, Sulphate.
“ Cyanide, Granular.	Spirits Lavender.
Red Precipitate.	“ Rosemary.
Rochelle Salts.	Stontia, Muriatric.
Seidlitz Mixture.	“ Nitrate.
Soda, Acetate.	Strychnia.
“ Bisulphite, Solution.	“ Nitrate.
“ Chloride, Liquid.	Tartar Emetic.
“ Citrate.	Zinc, Acetate.
Sugar Lead, Pure.	“ Phosphate.

All of which are excellent in quality; particularly so the large specimens exhibited of sulphate quinine and sulphate of morphia. These two articles are manufactured by this firm more extensively than by any other in the country, and probably more extensively than any European manufacturers; and their excellence is a standard of quality by all who use or purchase the same. *Award the highest premium.*

CHARLES T. WHITE & Co., of New York, exhibit the following list of chemicals:

Acid, Acetic, No. 8, s. g. 10.40.	Phosphate Soda.
" Acetic, C. P., s. g. 1.047.	Phosphate Soda and Ammonia.
This acid is of excellent quality and purity and free from empyreumatic odor.	Alum (true Potash), crystal.
Acid, Valerianic.	Alum (true Potash), granular.
" Sulphuric, C. P.	Carbonate Soda, pure.
" Muriatic, C. P., s. g.	Nitrate Silver, pure.
" Nitric, C. P., U. S. P.	Sulphate Copper, pure.
" Sulphurous Solution.	Muriate Ammonia, pure, granular.
" Oxalic, C. P.	Nitrate Potash, pure, granular.
Bromide Potassium.	Solution Muriate Iron.
Iodide Potassium.	Donovan's Solution.
Tartrate Iron and Potash Scales.	Fowler's Solution.
Citrate Bismuth and Ammonia.	Bromide Cadmium.
Citrate Iron, U. S. P.	Citrate Iron and Quinine Scales.
Carbonate Iron Precipitate.	Pyrophosphate Iron Scales.
Tartrate Potash, granular.	Valerianate Ammonia.
Sulphate Morphia.	Citrate Bismuth.
Strychnia.	Sub-Carbonate Bismuth.
Acetate Soda.	Sub-Nitrate Bismuth.
Bichromate Potash, refined.	Carbonate Zinc.
	Chrome Alum.
	Bromide Ammonium.

Some of the articles exhibited by this firm demand more than a mere notice, particularly their sub-nitrate bismuth, arsenic free, iodide of potassium, strychnia, and sulphate of morphia. The latter is well crystalized, but not so pure in color as that exhibited by POWERS & WEIGHTMAN. To Messrs. CHARLES T. WHITE & Co. we award the *second premium*.

W. J. M. GORDON, Cincinnati, exhibits the following list of chemicals and pharmaceutical preparations:

CHEMICALS.

Pure Inodorous Glycerine, s. g. 29°	Cyanide Potash.
Baume.	Permanganate Potash.
Pure Glycerine.	Valerianic Acid.
Concentrated Aqua Ammonia.	Chromic Acid.
Oxalate Ammonia.	Muriatic Tincture Iron.
Bromide Ammonium.	Blue Mass.
Acetate Potash.	Hydrastin.
Bromide Potassium.	Sulphate Zinc, Pure.
Concentrated Glycerine, s. g. 29°.	Iodide Cadmium.
Ferre et Potash Tart. Scales.	Sulpho-Carbolate Soda.
" et Quinia Ctt. Scales.	" " Lime.
" Citras Soluble Scales.	" " Potash
Ferre et Strychnia Cit. Scales.	" " Zinc.
Acetate Lead, Pure.	Bismuth, Sublimate Nitrate.
Bismuth, Sub. Carbonate.	Tannin.
Bismuth, Liquor.	Iodoform.
Sulphate Soda.	Solution Muriatic Tincture.

Sulphuric Ether.
Acid, Acetic, Glacial.
Acetic Ether.

Chromate Potash.
Bichromate Potash, purified.
Monsel's Solution.

Donovan's Solution.
Mercurial Ointment.
Hydrastin, Muriate.

PHARMACEUTICAL PREPARATIONS, RESINOIDS, Etc.

Podophyllin.
Eupurpurin.
Lobelia.
Corydalin.

Barosmin.
Bumicin.
Leptandrin.
Ampelopsin.

Trillin.
Phytolaccin.
Euonymin.
Stillingia.

SYRUPS.

Syrup, Hypophosphites.

Syrup, Phosphates.

FLUID EXTRACTS.

Comfrey.
Rhubarb.
Coltsfoot.
Bittersweet.
Buchu.
Colchicum Seed.
Dandelion.
Aconite Root.
Ergot.
Pipsiseway.
Wild Ginger.

Golden Seal.
Worm Seed.
Black Cohosh.
Uva Ursi.
Gelseminum.
Stillingia.
Life Root.
Arnica.
Cherry Bark.
Ratanhia.
Colchicum Root.

Columbo.
Wintergreen.
Blue Cohosh.
Valerian.
Unicorn Root.
Savine.
Worm Seed.
Juniper Berries.
Nux Vomica.
Lobelia.
Hyoscyamus.

SOLID EXTRACTS.

Powdered Extract Colocynth, Compounded.

POWDERED ROOTS.

Blood Root.
Map Apple Root.

Skunk Cabbage.
Golden Seal.
White Hellebore.

Pleurisy Root.
Black Hellebore.

TINCTURES.

Saturated Tincture Veratrum Viride.

Among the above list of preparations are some well made, particularly the bromide of potassium, bromide of ammonium, glycerine, and some of the scale preparations of iron, such as the citrate and pyrophosphate. Upon the whole list we award an *honorable mention*.

HARTMANN & LAIST, Cincinnati, exhibit the following list of chemicals:

Pure and Inodorous Glycerine, s. g. 30° Baume.

Rochelle Salts in Crystal.

" " in Powder.

Epsom Salts. (This article is made from Kiesrite, an anhydrous sulphate of magnesia, imported from Stassfurt, Germany, specimens of which were exhibited).

Both of the above exhibitors—W. J. M. GORDON and HART-

MANN & LAIST—are extensively engaged in the manufacture, or, more properly, the refining and purification, of glycerine; large quantities of the crude material being abundant here, and obtained from our extensive candle factories.

Glycerine is the sweet principle of some fats—for instance, lard and tallow—and has been, up to a very recent date, a waste product of soap and candle makers. The quantity thus thrown away, as of no use, may be estimated when it is known that fats yield, by saponification, nearly ten per cent. of this substance. As mentioned, it is only a few years since a demand as a medicinal agent for this article has originated, and since has been found valuable for many other uses in the arts, and especially for the manufacture of that terribly and powerfully explosive substance, nitro-glycerine. Consequently, what was once a curiosity in chemical cabinets, and a waste product of no value, has become an article of daily use, and familiar to all, and its concentration and refining an extensive branch of chemical manufacture here and elsewhere. The articles exhibited by W. J. M. GORDON and HARTMANN & LAIST are both excellent, but that of HARTMANN & LAIST being more anhydrous, we award the *premium* to them, and an *honorable mention* for Rochelle salts and Epsom salts.

ALEXANDER FRIES & BROS., Cincinnati, exhibit the following list of chemicals, essences, and ethers, for flavoring, etc.

Oenanthic Ether.	Jamaica Rum Essence.
Butyric Ether, Concentrated.	St. Croix Rum Essence.
Wine Ether.	New England Rum Essence.
Bourbon Whisky Essence.	Arrack Rum Essence.
Rye Whisky Essence.	Jamaica Rum Oil.
Monongahela Whisky Essence.	Holland Gin Essence.
Scotch and Irish Whisky Essences.	“ “ Oil.
Wheat and Malt Whisky Essences.	White Cogniac Oil.
Brandy Essence.	Green Cogniac Oil.
Peach Brandy Essence.	Bitters Essence.
Apple Brandy Essence.	Kimmel Cordial.
Carlat Red Coloring.	Peppermint Cordial.
Azuline Coloring.	Punch Essence.
Brandy Coloring.	Arrack Essence.

FRUIT EXTRACTS.

Raspberry.	Blackberry.	Peach.
Cherry.	Scwetchen.	Nectarine.
Strawberry.	Pineapple.	Banana.
Pear.	Apple.	

WINE FLAVORS.

Port Wine. Malaga. Muscat.
 Ginger. Sherry. Catawba.
 Cigar and Tobacco Flavors, Vinegar Flavors, and specimens of very beautifully Sublimed Crystals of Iodine.

The manufacture of artificial essences is an interesting and extensive branch of chemical manufacture. The investigations of modern chemistry has shown us that the flavor of many fruits and flowers, and essential oils, to be compound ethers, that may be artificially produced, and these essences are mostly a mixture of ethers, with sometimes the addition of essential oils. *Premium awarded.*

CINCINNATI CHEMICAL WORKS, EDWARD BERGHAUSEN & Co., exhibit the following list of chemicals, essences, flavors, and ethers:

Butyric Acid.	Holland Gin Essence.	Wheat and Malt Whisky
Lactic Acid.	London Dock Gin Es-	Essence.
Valerianic Acid.	sence.	Robinson County Whisky
Acetic Acid.	Punch Essence.	Essence.
Olnanthic Ether.	" Arrack, Essence.	Apple Brandy Essence.
Formic Ether.	" Whisky, Essence.	Blackberry Essence.
Sulphuric Ether.	" Brandy, Essence.	Catawba Essence.
Nitrous Ether.	White and Green Cogniac	Cogniac Essence.
Cogniac Ether.	Oils.	Peach Essence.
Wine Ether.	Acetic Ether.	Old Tom Gin Essence.
Jamaica Rum Essence.	Butyric Ether.	Schiedam Gin Essence.
St. Croix Rum Essence.	Valerianate Arnyle.	Wine, Sherry, Essence.
New England Rum Es-	Bourbon Whisky Essence.	" Claret, Essence.
sence.	Rye Whisky Essence.	" Malagar, Essence.
Arrack Rum Essence.	Monongahela Whisky Es-	" Madeira, Essence.
Cherry Essence.	sence.	" Catawba, Essence.
Ginger Essence.	Scotch and Irish Whisky	" Ginger, Essence.
Anker Gin Essence.	Essence.	

FRUIT FLAVORS FOR SYRUPS.

Apple and Vanilla.	Ginger.	Pineapple.
Banana.	Peach and Pear.	Raspberry.
Blackberry.	Orange.	Strawberry.
	Lemon.	

COLORINGS.

Sugar Coloring.

Scarlet Red.

CHEMICALS.

Carbonate Iron.	Sulphate of Lime.	Lactate of Iron.
Persulphate Iron.	Solution Mur. Iron Tincture.	Sulphate of Soda.
Citrate Iron in Scales.	Valerianate Iron.	

The sulphate of lime, exhibited by this firm, we find to be

of an excellent quality, giving off a large per cent. of sulphurous acid. It is, at present, much used in arresting fermentation of cider, etc. *Honorable mention* for the entire list.

No. 1168. MARSH & HARWOOD, Cincinnati, manufacturers of oil of vitriol, muriatic and nitric acids. Exhibit but two specimens of oil vitriol. *Honorable mention*.

Sulphuric acid, or as it is commonly known, oil of vitriol, is an article largely manufactured by this firm. Their annual production is over twenty thousand carboys a year, about three millions two hundred thousand pounds in weight. It is an article used largely in the arts and manufactures. The largest consumption of it was formerly by the stearine candle-maker; but improved process of manufacture has much reduced the demand for that purpose. The manufacture and refining of coal and petroleum oils, however, have stepped in, and the falling off in the demand for the purposes of candle-making has been more than balanced by the use of it for the purpose mentioned—refining of oils.

No. 1297. JOSEPH WHORTON, Camden, New Jersey, exhibit the following specimens:

Sulphate Iron.	Nickel Sulphate.	Pure Metallic Nickels, in
Sulphate Copper.	Pure Metallic Nickel, in	grains.
Oxide Cobalt, very fine.	cubes.	Nickel and Copper Alloy.
Metallic Cobalt, pure.		

Premium awarded on the oxide cobalt, metallic nickel, and metallic cobalt.

L. & I. W. FEUCHTWANGER, New York, exhibit the following specimens:

Arsenic Lumps, Pure.	Black Lead, for Electrotyping
" in Powder.	and Lubricating.
Antimony, Sulphuret, Crystals.	Bone Ash, White, Ground.
" Sulphuret, in Powder.	Felspar, White, Ground.
Manganese Peroxide, Pyrolusite.	Flint, White, Ground.
Manganese, in Powder.	Fluorspar, White, Ground.
Manganite Lumps, N. B.	Oxides of Antimony.
" Powder, N. B.	" Tin.
" Granulated, N. B.	" Chrome.
Psilomelan, Hard Manganese Va.	" Nickel.
Zaffre.	" Zinc.
Powdered Blue.	" Uranium.
Copper, Suboxide.	" Cobalt.
Hydroflusilic Acid.	" Copper.
Black Lead, for Hock bottle-making.	Asbestos Gr'd, for Packing.
Tungstate Soda.	

RARE METALS.

Platina Plate and Wire.
 Alumimum.
 Cadmium.
 Arsenic.
 Potassium.
 Wolfram, for Steel.
 Loadstone.

Magnesium.
 Nickel.
 Bismuth.
 Antimony.
 Sodium.
 Bloodstone, for Burnishers.
 Oxide Tilanium.

SOLUBLE GLASS.

Silicate of Soda, Dry.
 " of Soda, Liquid.
 Chloride of Calcium, for Hardening.

Chloride of Magnesium.
 Silica Jelly, for Soaps.
 Silica Mucilage, for Paste.

ARTIFICIAL FLAVORING EXTRACTS.

Olnanthic Ether.
 Oil Burbon Whisky.

Extract Pine Apple.
 Extract Strawberry.
 Extract Raspberry.

Essence Jamaica Rum.
 Extract Holland Gin.

MARKING COLORS FOR FLOUR BARRELS.

Carmine, Lake.

Blue, Lake.

This was an interesting collection of natural and artificial products, but badly displayed in an obscure place, and did not attract the attention it should. The manganese is of excellent quality, of high test; is an article indispensable to the glass-maker and others; equal, if not better, to the Saxony mines. As it is not a product of the United States, but from New Brunswick, we make no award for premium. *Honorable mention* awarded.

C. F. MOLL, Kenton, Ohio, exhibits the following list of potash salts:

Pure Carbonate Potash.	Sherry (Sulphate of Potash).	Carbonate of Potash, Commercial.
Sulphate Potash.	Black Salts.	Crude Pearls.
Sulphate Potash, Pure.	White Salts.	
Scorchings.		

These were excellent specimens of the kind. *Premium* awarded.

PHILADELPHIA QUARTZ COMPANY exhibit a large number of samples of the silicates of soda and potash. *Honorable mention*.

This article is used for many purposes in the arts, in making artificial stone by the Ransom process, in soaps, for hardening plastered walls, and for washing, and has been used as a paste or mucilage. As a paste it is of questionable value,

for several reasons, the most important of which is that the silicate is decomposed by exposure to atmospheric influences, its carbonic acid combining with the alkali, and setting free the silicic acid, and destroys the former adhesiveness of the silicate.

JOHN W. SHARPLESS & Co., Philadelphia, exhibit the following specimens:

Extract of Logwood.	Camwood, ground.	Fustic, ground.
Prussiate of Potash.	Logwood, "	Cochineal, Honduras.
Red Prussiate of Potash.	" chipped.	" black.
Blue Vitriol.	Fustic, "	Alum.
	Brazil Wood, ground.	

Premium on extract logwood. *Honorable mention* on other articles.

JOHN DWIGHT & Co., New York, exhibit the following:

Specimen of Bicarbonate Soda.

WM. S. MERRILL & Co., Cincinnati, exhibit the following list of Pharmaceutical Preparations:

FLUID EXTRACTS.

Fluid Extract Cubebs.	Fluid Extract Sarsaparilla, compound.	Fluid Extract Colocynth.
" Verat Viride.	Fluid Ergot.	" Valerian.
" Yellow Jessamine.	" Taraxacum.	" Podophyllin.
" Buchu.	Fluid Extract Ipecac.	" Cotton Root.
" Leptandria.		" Cimicifugia.

ELIXIRS.

Elixir Calisaya, Iron, and Strychnia.	Elixir Calisaya, Iron, and Bismuth.
" Calisaya.	" Calisaya & Pyrophosphate Iron.
" Calisaya and Protoxide Iron.	" Pepsin, Strychnia, and Bismuth.

SYRUPS.

Syrup Phosphate Iron.	Syrup of Phosphate, compound.	Syrup of Phosphate.
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PILLS—SUGAR-COATED.

Compound Cathartic, U. S. P.	Improved Compound Cathartic.
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RESINOIDS AND PROXIMATE PRINCIPLES.

Leptandrin.	Sulph. Hydrastia.	Hydrastine.
Sanguinarin.	Podophyllin.	Mur. Hydrastia.
Iridin.	Macroton.	

EXTRACTS.

Extract Nux Vomica.	Extract Cannabis Indica.
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POWDERED SUBSTANCES.

Powdered Capsicum.	Powdered Myrrh.	Powdered Golden Seal.
" Elm Bark.	" Mandrake.	" Gamboge.

PACKED HERBS, ROOTS, ETC.

Spikenard.
Blue Flag.
Comfrey.
Wild Ginger.
Wahoo Bark.
Dogwood Bark.

Hops.
Belladonna.
Fox Glove.
Stillingia.
Black Root.
Elecampane.

Black Cohosh.
Skunk Cabbage.
Aconite Leaves.
Stramonium.
Pennyroyal.
Hyssop.

This firm is one of the pioneers in the manufacture of pharmaceutical preparations in Cincinnati, particularly so of the so-called eclectic remedies, many of which originated or were introduced by them, and have become largely in demand and extensively manufactured both East and West.

H. M. MERRILL & Co., Cincinnati, exhibit the following preparations:

Fluid Ext. Senega.	Fluid Ext. Gelseminum.	Fluid Ext. Collinsonia.
" Valerian.	" Stillingia.	" Hyosciamus.
" Senna.	" Hops.	" Arnica.
" Hydrastus.	" Cannab, Indic.	" Uva Ursi.
" Leptandrin.	" Sarsaparilla.	" Buchu.

EXTRACTS.

Powdered Extract Colocynth, Comp.

RESINOIDS, Etc.

Leptandrin.
Macrotin.

Hydrastin
Podophyllin.

TINCTURES.

Nux Vomica.
Pulsatilla.

Cactus, Grand.
Coffee.

POWDERED DRUGS.

Ergot.
Capsicum.

Tanquinaria.

Ipecac.
Hydrastus.

Honorable mention.

O. F. GORDON, Cincinnati, Ohio, exhibits the following list of preparations—suppositories, and some well-made chemical specimens:

SYRUPS.

Comp. Syrup Phosphates.
" Hypophosphites.
Syrup Hypophosphites.
" Iodide Iron.
" Iodide Iron and Manganese.
" Phosphates Iron, Quinine, and Strychnia.
" Pyrophosphate Iron.

Liquor Ferri Perchloride.
" Ferri Sub-Sulphate.
Tincture Ferri Chloride.
Collodion.
Cantharidal Collodion.
Styptic Collodion.
Solution Bimeconate Morphia.

FLUID EXTRACTS.

Senna.

Sarsaparilla, Comp.

Valerian.

ELIXIRS.

Valeriante Ammonia.

Peruvian Bark.

FLAVORING EXTRACTS.

Strawberry.
Vanilla.

Rose.

Raspberry.
Lemon.

CHEMICAL SPECIMENS.

Chromic Acid.

Sulphate Iron.

Sulphate Copper.

Carbonate Copper.

Sulphate Nickel.

Chromate Mercury.

Naphthaline.

Protoxalate Iron.

Sulphate Zinc.

Arseniate Soda.

Bin. Iodide Mercury.

Iodoform.

Nitrate Uranium.

CAPSULES.

Compound Cubeb Capsules.

SUPPOSITORIES.

Cocoa Butter.

Opium, 1 grain.

Opium, 2 grains.

Carbolic Acid, 1 drop.

{ Opium, 1 grain.
Extract Belladonna, 2 grains.

{ Tannin, 5 grains.

{ Atropia, 1-16 grain.

{ Kine, 5 grains.

{ Opium, 1 grain.

{ Quinine, 3 grains.

{ Opium, 2 grains.

{ Acetate Lead, 5 grains.

{ Sulphate Morphia, $\frac{1}{3}$ grain.

{ Monsel's Solution, 5 drops.

{ Sulphate Morphia, $\frac{1}{3}$ grain.

{ Opium, 1 grain.

{ Tannin, 5 grains.

{ Sub-Sulphate Iron, 5 grains.

{ Sulphate Morphia, $\frac{1}{3}$ grain.

{ Extract Hyosciamus, 2 grains.

Chapman's Suppository Mould.

Honorable mention on preparations, etc. *Premium* on suppositories.

SECTION 2.

TECHNICAL CHEMISTRY—SOAP AND CANDLES.

STEARIC ACID CANDLES (STAR CANDLES).—The manufacture of stearic acid candles is an extensive one in Cincinnati, and its origin or commencement dates within a recent period, and has been developed and brought to its present state of perfection mainly through the investigations of Chevreul, a distinguished French chemist. His discoveries of the composition of fats opened the way for the large industry of candle-making, both here and in Europe.

His investigations upon fatty matters, first taught a true knowledge of them, that they were not simple bodies, but

complex compounds, and were by saponification split into substances having different properties to the original fats, namely, into solid and liquid fatty acids, such as stearic and oleic acids, and a sweet principle—glycerine (the latter had previously been discovered by another European chemist, Scheele). These substances Chevreul found not to exist as such in the fat, but formed during the decomposition of them by chemical agency, the elements of water combining with the stearine and oleine to form oleic and stearic acids, also glycerine. The term saponification does not mean, chemically speaking, the formation of soap, but the decomposition of the fats into fat acids and glycerine, which may be accomplished by various means, by alkalies, such as potash and soda, and by the alkaline earths, such as lime, by the action of sulphuric acid, by water, and its equivalent, steam, at a high pressure and temperature. With potash and soda we would have what is familiarly known as soap, and with lime an insoluble mass, both of which would require further chemical manipulations to set the fat acids free. With sulphuric acid we would have free fat acids and the glycerine destroyed, and by steam or water free fat acids and glycerine. Stearic acid, whether made from lard, tallow, palm oil, or any other fatty matter, has a much higher melting point than the original fat, and hence is admirably adapted for the production of candles superior to either.

The first efforts to make use of the discovery of fatty acids in a commercial way met with many difficulties. Potash and soda were used to saponify the fats. The process was necessarily an expensive one, and the nature of fat acids also involved technical difficulties to make a candle that would burn well. The wick that would burn well in a wax or tallow candle did not answer for the new material. These difficulties for a while almost caused an abandonment of the production as a commercial enterprise. But, fortunately, just then the lime saponification was introduced, and the economy of the process gave a fresh start to it. Since then other more economical processes have been invented, such as the saponification by means of sulphuric acid, by a reduction of the quantity of lime originally used, as by the patent of M. Werk,

and by water and high pressure temperature alone, patented by R. Tilghman; and the candles we have on exposition, now so well and widely known, is the result of the discoveries of Chevreul and the patient toil and enterprise of the manufacturer. As mentioned, candles, and, in this connection, we might say soap, also, is a large manufacturing industry in Cincinnati, and regret to say that it has not been as fully represented at the Exposition as it should have been. Candles, in fact, are manufactured more extensively here than elsewhere in the United States. This, no doubt, has arisen from the fact of our being in the center of a large agricultural and stock producing district, and consequently the fat for manufacturing them obtainable at less price than elsewhere; and, notwithstanding the importation of cheap tallow from South America, and of palm oil and other vegetable fats suitable for the purpose in the Eastern seaports, Cincinnati is yet able to compete with them in the cheap production of candles, and her products find a sale in all the seaboard cities.

The first factory erected for the manufacture of star candles in the United States was in Cincinnati. M. Werk was the pioneer in that, and started the first factory here in 1840—is yet largely engaged in the business, and that he has not lost interest in the same by lapse of years, was evinced by the display of his products at the Exposition. Others soon followed. Some have made fortunes and retired; others have met with the vicissitudes of commerce. At present we have seven factories in operation, consuming yearly of lard and tallow 14,000,000 pounds, which produces about 8,000,000 pounds of candles and 7,000,000 pounds oleic acid, commonly known as red oil, a large portion of which is converted into German and other soaps. At present we have seventeen factories in the United States, seven of which, as mentioned, are in Cincinnati.

Soap manufacturing in Cincinnati has naturally developed itself from our large candle production, furnishing large quantities of red oil (oleic acid) admirably suited for it. Millions of pounds of soap are annually made here. Some idea of the magnitude of the business will be seen when it is known that one house alone, Procter & Gamble, make yearly

92,000 boxes, and another, M. Werk & Co., 40,000 boxes. The total annual production of all the factories here is about 12,000,000 of pounds.

M. WERK & Co., Cincinnati, exhibit the following articles :

Ornamental Stearic Acid Candles for church altars.

Stearic Acid Candles, colored red.

" Candles, colored blue.

" Candles, colored green.

" Candles, colored lavender.

" Candles, for railroad use.

" Candles, for hotel use.

" Candles, pure white, of all sizes, for ordinary use.

Two elegant statuary figures of Eve and the Greek Slave, and a bust of Franklin, cast in stearic acid.

German Soap.

First Premium.

PROCTER & GAMBLE, Cincinnati, exhibit the following articles :

Stearic Acid Candles for hotel, railroad,
and for ordinary use.

German Soap.

Olive Soap.

Palm Soap.

Laundry Soap.

Lard Oil. (See section on oils.)

Family Soap.

Oleine Soap.

Chemical Detersive Soap.

Yellow Erasive.

Extra Soap.

Refined Lard in packages.

Premium on lard and all soaps except German.

MAXWELL, LONG & Co., Dayton, Ohio, exhibit the following :

Family Soap.

Laundry Soap.

Silver Mountain Soap.

For laundry soap, *honorable mention*.

R. M. BISHOP & Co. exhibit the following :

Tiger Soap.

WHITE LEAD AND COLORED PAINTS.

White Lead is a large production in Cincinnati, and about two thousand five hundred tons of lead are used annually in this branch of manufacture. At present we have three manufacturers, namely, the Eagle White Lead Company (Wm. Wood & Co.), the Anchor White Lead Company (Goshorn Brothers), the Phoenix (Eckstein, Hills & Co.), and others engaged in grinding, but not corroding. Pure white lead is the most economical paint we have for all purposes, and affords a base for the production of tints of every hue when mixed with colored paints. This may be disputed by some, but it is a fact easily demonstrated; and we again repeat, for the benefit of

those interested—the consumer—that pure white lead is the cheapest and most durable paint for all purposes, and that any tint may be given it that fancy desires. By pure white lead, we mean the product of reliable makers, and not the fancy brands of white lead that have been thrown upon the market from all parts of the United States, which, upon analysis, have been found to be perfectly *pure from lead*, there being not a trace of white lead in it, but a mixture of zinc white and baryta, or something equally bad. Such paint is white, looks well, but has no body; and though ostensibly cheap, will be found dear in the end, as it will take twice the quantity to do the same work, and be less durable, than pure white lead. The manufacture of white lead is a slow process and involves much time and capital in its production; little or no improvement has taken place in the process for years, except in machinery for grinding and manipulating it through the different stages of making, and is yet made by what is known as the Dutch method, by placing lead in rings or sheets in cone-shaped earthen pots, as shown at the Exposition, placing in each pot a certain amount of vinegar, and then bedding them by thousands in tan-bark or manure. The mass is then left to itself; fermentation of the tan-bark or manure furnishes a certain development of heat necessary, also carbonic acid, which, with the carbonic acid obtained from the atmosphere in the course of sixty or ninety days, gradually and almost completely converts the whole mass of lead, tons in weight, into white lead, which, after undergoing many manipulations of washing and grinding, is put upon kilns to dry, and then ground with linseed oil, ready for the painters' use. White lead is, chemically speaking, a hydrated basic carbonate of lead; thus made, it has great opacity which gives it its body or covering value. Various patents or processes have been devised for the production of white lead by a cheaper and more expeditious process; but, so far, none have proved successful. The quality or composition of the carbonate produced by them, is not the same as by the Dutch method; it has less opacity and body, and does not cover as well as that made by the old process.

ECKSTEIN, HILLS & Co., Cincinnati (Phoenix White Lead Company), exhibit the following articles:

Pure White Lead, Dry.	White Lead, Corroded, in	Lead in Pigs.
Pure White Lead, Ground	buckles. Exhibiting the	Lead Ore, Galena.
in Oil.	process of manufacture.	Red Lead.

Premium on white lead.

WM. WOOD & Co., Cincinnati (Eagle White Lead Company), exhibit the following:

Pure White Lead, Dry	Chrome Yellow, of different Shade.
Pure White Lead, Ground in Oil.	Chrome Green, of different Shadess.
White Lead, in buckles, exhibiting the	Prussian Blue.
process of manufacture.	Celestial Blue.
Lead in Pigs.	Vermillion (Chrome Red).
Lead Ore, Galena.	Bleached Linseed Oil.
Red Lead.	Zinc White, in Oil.
Litharge.	

Premium on red lead and colored paints.

GOSHORN BROTHERS, Anchor White Lead Works, exhibit the following:

Pure White Lead, Dry.

Pure White Lead, Ground in Oil.

The white leads exhibited by the above manufacturers were all pure and of excellent quality, the only appreciable difference being that in the purity of color; and Eckstein, Hills & Co.'s make being judged the whitest, the *premium* was awarded to them.

CHARLES MOSER, Cincinnati, exhibits the following:

White Lead Ground in Oil. (This was a beautiful specimen of grinding in oil, perfectly smooth, and evidently done by other means than an ordinary lead mill.

Tube Colors, in great variety, for artists' use and fine ornamental painting.
Artists' and Painters' Tools of all kinds.

Premium on artists' colors.

COLORED PAINTS—RED PAINTS EXHIBITED.

Red Lead.—This is an oxide of lead made by calcining metallic or carbonate of lead in an oven something similar to that of a baker's oven, atmospheric air having been admitted until the oxide produced has the desired tint. The oxygen of the red or oxide of lead being obtained from the atmosphere. Litharge is also obtained by a similar process. Both

are oxides of lead, litharge, a protoxide, and red lead, a mixture of the protoxide and peroxide. Chrome red, or American vermillion, is a sub-chromate of lead, and made by various processes, the brilliancy of color depending, in a measure, upon the process used.

YELLOWS.

Chrome Yellows are chromates of lead and the various shades produced by the use of neutral chromates of potash and acetate of lead, or with bichromate of potash and basic acetate, or other basic salts of lead, or acetate of lead.

BLUES.

Prussian Blues.—These are mainly composed of ferrocyanides of iron, with foreign matter added to suit the price or quality required; are made by precipitation of a solution of prussiate or ferrocyanide of potassium by a salt of iron (copperas), or a nitrate. Celestial blue is prepared from the above.

GREENS.

Chrome Greens are mixtures of Prussian blue and chrome yellow, the quantity of each determining the shade. Emerald green is an arseniate of copper, and is an exceeding poisonous substance.

The colored paints exhibited by the Eagle White Lead Company, of their manufacture, are of good tone and quality, and well-known throughout the West.

JANENTZKY & Co., Philadelphia, exhibit the following:

Artists' Colors in Tubes,

Artists' Water Colors in Cakes,

Water Colors, ordinary, in Cakes.

Premium on water colors.

W. C. PEALE & Co., Cincinnati, exhibit the following:

Yellow Ochre Ground in Oil.

Venetian Red Ground in Oil.

Greens of different kinds Ground in Oil.

Chrome Yellow Ground in Oil.

Chrome Greens Ground in Oil.

Paris Green Ground in Oil.

Umbers Ground in Oil.

Siennas Ground in Oil.

Black Paint Ground in Oil.

Honorable mention.

L. O. CAMERON, Cincinnati, exhibits the following:

Mixed Glass Paints of various colors, and Specimens of Work painted with the same.

AVERILL CHEMICAL PAINT COMPANY exhibits the following:

Samples of Gloss Paint, and Specimens of Painting done with the same.

These two claimants for awards—L. O. Cameron and Averill Chemical Paint Company—both show good specimens of work done with their respective paints, but from information we have obtained from each respecting the composition of the paints, and a knowledge of the nature of the same, we are somewhat at a loss to give a decided opinion as to the merits of either, but are of the opinion that the article made by Cameron is probably the most durable; and as a test of the merits of either is a question of time that we can not avail ourselves of, we pass them by for an award.

STARCH.

R. M. BISHOP & Co. exhibit the following article:

Oswego Starch, for dietetic and domestic uses.

First Premium.

A. ERKENBRECHER exhibits the following article:

Starch for dietetic and domestic uses.

Second premium.

GEO. FOX exhibits the following article:

Starch for dietetic and domestic purposes.

Honorable mention.

ALEX. McDONALD & Co. exhibit the following article:

Starch.

Honorable mention.

The starches exhibited by the above named manufacturers, so far as appearance was concerned, were very excellent. The Oswego starch, however, upon examination, the jury found to have less disagreeable taste and odor, evincing more care in preparation, and a great desideratum, especially in those intended as condiments, and consequently award it the highest premium.

OILS.

Oils of various kinds we find on exhibition. They are a highly useful class of substances, particularly so to the machinist, as well to those who employ machinery. By their use friction and consequent wear of moving parts is reduced to a minimum. Also, as sources of illumination, as a vehicle for paints, and other multifarious uses. Their importance has induced us to give them as close an investigation as their importance demands, and, in doing so, aside from our own knowledge of them, have consulted with those who are in daily use of them, particularly for purposes of lubrication.

Oils may be classified as follows:

Animal Oils, such as lard, tallow, and fish oils.

Vegetable Oils, such as cotton-seed, linseed, mustard-seed, peanut oils, etc.

Mineral Oils, such as petroleum, crude and refined, and these again into oils for lubrication, for illumination and illumination alone, for painting, and for miscellaneous uses.

We shall first notice oils on exhibition for lubrication, of which we find three kinds—animal oils; petroleum, crude, refined, and distilled; and mixed oils of all kinds—and shall notice them in the above order.

The specimens of petroleum, crude and refined, exhibited are numerous, and excellent of the kind, and of a good specific gravity; but in relation to them as a class for the purposes of lubrication, are compelled to say that they do not fully answer the purpose, and for the following reasons: They do not possess body sufficient to interpose a protecting film between the moving parts, slides, and journals of a machine sufficient to prevent friction and wear, and, in consequence, their use will in time cause a heating and cutting of them. The heaviest oil will rapidly thin out by the heat of motion and friction so as to leave scarcely any protecting film of oil on the parts it is applied to—heating will be the result, and wear and loss of power follow. One peculiarity of these oils, particularly so with the raw or clarified oils, is that the heat developed by friction causes a separation of a portion of

carbon from the oil that seems to be held in it in a loose state of chemical combination, and is deposited upon the slides and journals by the heat of friction, probably to the same extent as takes place in the still of the refiner. It is a frequent remark of engineers, that if the grit could be removed from the petroleum that it would be all right. The grit that they speak of is not in the oil as an accidental impurity that can be removed by sedimentation or filtration, but is the result of a loss of a portion of the carbon of the oil, as mentioned, by the heat of friction. This carbon separated from the oil is the grit they observe, and deposits itself upon the wrist or other parts as a hard, rough deposit that rapidly cuts them out. Practical tests have proven this, and in one instance have known of a car-axle reduced, in a short run, the 1-32 part of an inch, that was packed with petroleum; and on the other, packed with lard oil, no appreciable difference observed. Both were carefully calipered before and after the test. This test was made by Mr. LAMB, formerly of the Little Miami Railroad.

That petroleum has no value for purposes of lubrication we do not pretend to say. It has its utility, which is, it seems to us to be, the diluting, so to speak, of other oils, such as animal oils, lard, etc., and, by the mixture, to produce a good lubricating material for certain uses, and an economy in the consumption and waste of the more expensive animal and fish oils. The exhibitors will be mentioned below.

LARD OIL—*Oils for purposes of Lubrication and Illumination.* Lard oil is too well known almost to need any mention. It is a large production here, however, and a few remarks upon it are not amiss. As a lubricator and for purposes of illumination it is one of the best for general purposes. A good lard oil should be made from sound lard, and any attempt at purification of it to improve its color, etc., beyond filtration, a detriment, not a benefit, to the quality of the oil for either of the purposes mentioned. The only objection that can be urged against it is the facility with which it congeals, which is not a very serious one, however. And in the United States no oil stands higher in the estimation of engineers

than it; and the chief use of it now is for the purpose of lubricating; petroleum oil having almost superseded its use as an illuminator, and has been the indirect means of keeping the market price of it within a reasonable margin as to cost.

The article exhibited by Procter & Gamble we find by practical test to be the best exhibited, and, as below mentioned, award to them the premium on lard oil.

COTTON-SEED OIL—*Oil for Illumination, and other uses*—This oil is yet almost a novelty, although not new, as it has been made on a small scale long since; but it has been only recently that it has appeared to an extent for sale as an article of commerce. This has partly arisen from want of proper machinery for the hulling of the seed and a knowledge of the refining of it. The raw oil, as produced from the seed, has a dark, unsightly appearance, which, by refining, is obtained either of a straw-yellow or almost white color. As to its proper place in the list of oils, is a question, but we are inclined to the opinion that its use is restricted to few purposes or uses. From the experiments we have made it seems to be a good burning oil and well adapted to purposes of illumination, and in the experiments in this direction with it, we find that it burns nearly as well as lard oil, or quite as well, and that its rate of combustion, every thing being equal, is less than that of lard oil. As it is a drying oil, more or less, like linseed oil, do not think it fit for lubrication—and may be used as a vehicle for paint. Samples of it treated by Clarke & Taylor's refining process were shown at the Exhibition, mixed with white lead, which dried to a hard paint, like linseed oil.

It is a bland, not unpleasant oil, and may be used as a condiment, and is a pleasanter oil for this use than many specimens of so-called olive oil in the market, and is well adapted for soap making, particularly fine soaps and that known familiarly as castile soap.

To Smith & Sterrett the *premium* was awarded for cotton-seed oil.

ILLUMINATING CARBON OILS—COAL OIL, SO-CALLED.

Of this class of oils but few samples were exhibited. They are too well known and used to need comment, but we can

not pass them by without alluding to the excellent specimens exhibited. So far as fire test and burning quality of the head-light oil exhibited by Gest & Atkinson, by test we find it to stand a temperature of 165° Fahrenheit before it gives off an explosive vapor. It burned steadily and brilliantly without diminished flame during a trial of twelve hours, without any regulation or altering of the wick, and we can not, consequently, recommend this oil too highly to those who, from necessity, are obliged to burn carbon oils. Such oil is perfectly safe under all circumstances, and the increased cost of such over the dangerously explosive oils commonly sold is but a small consideration compared to the immunity it secures from risk of life and property.

Premium to Gest & Atkinson for head-light oil.

MUSTARD-SEED OIL.

Samples of this oil were exhibited. It is an expressed oil from the black mustard seed, and obtained as a product in the manufacture of mustard. It is a bland, pleasant-tasted oil, and free from any pungency of the seed. It is used as a condiment in place of olive oil, and for the purposes of the perfumer.

MIXED OILS FOR LUBRICATION.

Of these there were many samples exhibited. Their excellence we have no means of determining, save a few that were used upon the machinery at the Exposition. That made by Cochran & Newport, and called sperm machinery oil, had the best report, but lard oil preferred to either.

GEST & ATKINSON, Cincinnati, exhibit the following specimens:

Extra Lard Oil, s. g. .910.	Dark Machine Oil Petroleum, s. g. .890.
Salad Oil, s. g. .920.	Filtered West Virginia Machine Oil
Extra Paraffin Oil, s. g. .900.	Petroleum, No. 1, s. g. .860.
Extra Engine Oil, s. g. .892.	Filtered West Virginia Machine Oil
Cylinder Oil, s. g. .890.	Petroleum, No. 2, s. g. .867.
Elaine Oil (Red Oil).	Filtered West Virginia Machine Oil
Decolorized West Virginia Petroleum,	Petroleum, No. 3, s. g. .872.
s. g. .860.	Carbon Head-Light Oil, s. g. .795.
Clarified West Virginia Petroleum, s.	Carbon Head-Light Oil, s. g. .797.
g. .880.	Signal Oil, s. g. .880.

Premium on head-light oil.

COCHRAN & NEWPORT, Cincinnati:

Sperm Machinery Oil, s. g. .875.
Pure West Virginia Petroleum (Globe
Brand), s. g. .880.

Filtered West Virginia Petroleum,
Amber Color, s. g. .875.
Filtered West Virginia Petroleum,
White, .867.

Premium on sperm machine oil.

PROCTER & GAMBLE, Cincinnati:

Extra Pure Lard Oil, s. g. 910. This oil burned for thirteen and three-quarter hours, from the time it was lit until it went out by charring and incrustation of the wick.

Premium on lard oil.

SMITH & STERRETT, Cincinnati:

Cotton-Seed Oil for Burning, s. g. .920.

Refined Sweet Oil, Summer-pressed, s. g. .920.

Raw Cotton-Seed Oil.

Cotton-Seed Cake and Meal, used as a Food for Cattle.

The specimen of burning oil was tested in the same sized lamp and wick ($\frac{1}{2}$ inch flat wick) as with the lard oil. It burned as well as the lard oil for thirteen and one-quarter hours, and went out, as with the lard oil, from the charring and incrustation of the wick. In the trial with lard oil four ounces were consumed, with cotton seed three and one-half ounces; its rate of consumption is, consequently, less than that of lard oil. *Premium on burning oil.*

JOHN V. LEWIS, Cincinnati:

Cotton-Seed Burning Oil (Crescent
Burning Oil), s. g. .952.

Cold-pressed Cotton-Seed Oil, s. g. .920.

Summer-pressed Cotton-Seed Oil, s. g.
.920.

Crude Cotton-Seed Oil, s. g. .922.

Salad Oil.

Bleached Cotton-Seed Oil.

W. C. HUNTINGTON, Cincinnati:

Mineral Sperm Oil.

Pratt's Astral Coal Oil.

SPEAR & Co., Cincinnati:

Sample of Carbon Oil.

ALEX. McDONALD & Co., Cincinnati:

Petroleum Oils, Heavy Crude.

Petroleum Oils, Filtered.

Burning Oil (Carbon).

Sperm Oil.

Lard Oil.

Axle Grease.

Rosin Oil.

Cans for Packing and Transportation.

FRAZER LUBRICATOR COMPANY:

Axle Grease.

G. D. V. ROLLO & Co.:

Lubricating Oils (Petroleum).

Burning Oils (Petroleum).

KRAFT & MORE:

Petroleum (Heavy Oil), s. g. .878.

CHAPMAN, SAMPSON & RODGERS:

Sample of Mustard Seed Oil.

G. W. GLADDEN, Cincinnati:

Lubricating Oil made from Residuum. A mixture for heavy machinery.

TAYLOR & CLARKE, Cincinnati, exhibit specimens of linseed and cotton-seed oils, refined and bleached by their patent process without the use of chemicals, and particularly adapted for the grinding of white paints, such as white lead and zinc white, varnish making, and for artists' use. Specimens of oil made from Western seed, also Calcutta flaxseed, raw and bleached, were shown. The bleaching we find materially to increase the body of the oil, and to impart a more rapid tendency to dry to a hard varnish. For instance, we find the specific gravity of these oils to be as follows:

Western (Raw) Flaxseed Oil.....	.930
Western Flaxseed, Bleached.....	.940
Calcutta Seed Oil.....	.934
Calcutta Seed, Bleached.....	.942
Cotton-Seed Oil.....	.925
Cotton-Seed, Bleached.....	.955

In the refining process flaxseed oil loses about 7 per cent.; the residuum for the 7 per cent. may be used for rough paint and putty. Cotton-seed oil, 12 per cent.; suitable for soap-making. The bleaching and refining is done cheaply and rapidly, and we consider the process a new, novel, and valuable one. *Premium* awarded.

REFINED SUGARS.

DAVIS, MCKEAN & Co., Philadelphia, exhibit excellent specimens of refined sugars, very white and beautifully crystalline:

Loaf Sugars. Crushed Sugars. Powdered Sugars.

Refined without the use of blood. *Premium* awarded.

GLUE.

COOPER, STEVENSON & Co., Cincinnati:

Samples of Glue.

Honorable mention.

M. ECKERT, Cincinnati:

Sample of Glue.

Honorable mention.

BAEDER, ADAMSON & Co., Philadelphia:

Samples of Glue.

Premium awarded.

WRITING INKS AND MUCILAGE.

J. J. BUTLER, Cincinnati, exhibits:

Writing Fluid.
Copying Inks.Carmine Inks.
Red Inks.
Mucilage.Violet Ink.
Purple Ink.*Premium awarded.*

JOSEPH FROMHERZ, Cincinnati, exhibits:

Writing Fluid.

Violet Copying Ink.

Red Inks.

Honorable mention.

THOMAS BUTLER, Cincinnati:

Samples of Boot and Shoe Blacking.

Premium awarded.

J. O. STANAGE & Co., Cincinnati:

White Wine Vinegar.

Honorable mention.

C. C. PRUDEN:

Crystallized Salt.

CHEMICAL APPARATUS.—CRUCIBLES.

A good crucible is an indispensable requisite to the steel manufacturer, brass-founder, and for other metallurgic operations.

This branch of manufacturing industry is but of recent origin, so to speak, in the United States; and the crucibles used here were formerly supplied from Germany, until the manufacture of them was commenced by Jos. Dixon; and

now the Dixon Crucible Company, of Jersey City, New Jersey. The introduction of crucibles of American make was at first a slow operation, as those who used the article were loth to run the risk of the experiment, satisfied with what they were accustomed to use; but, by perseverance and the production of a really better crucible than the imported, success followed the enterprise, and has at last almost completely if not entirely supplanted those of foreign make in the United States. The requisites of a good crucible are strength to enable it to carry the load of metal, and to withstand handling by tongs or cranes. It must resist high temperature—its breaking occasions a tripple loss of metal, crucible, and time. Two manufacturers exhibit crucibles of their make at the Exposition—the Dixon Crucible Company, of Jersey City, and Taylor, Strow & Co., Philadelphia.

We have examined both makes, which, together with the opinion of those who use crucibles whom we have consulted, make the following awards:

DIXON CRUCIBLE COMPANY exhibit black lead crucibles of various sizes. *First premium.*

TAYLOR, STROW & Co., Philadelphia, exhibit black lead crucibles of various sizes. *Honorable mention.*

DIETETICS.—BAKING POWDERS.

A large number of this class of preparations have been placed on exhibition. Their value depends upon the development of carbonic acid gas when mixed with flour and made into dough with water. The gas liberated gives to the bread lightness similar to that of fermentation by yeast. We have tested all the samples presented, and have based their quality upon the amount of carbonic acid each sample produced.

EXHIBITORS OF BAKING POWDERS.

CARRET & LANGENBECK.	PARKER & DIXON.
JOHN BAILIE & Co.	T. W. SUTTON.
A. DE GRAW.	BISHOPRICK & Co.
E. J. WILSON & Co.	ROYAL BAKING POWDER Co.
A. G. PECK, Bicarb. Soda and Cream Tartar.	HORSFORD'S Self-raising Bread Preparations.

We find that the powder of CARRET & LANGENBECK gives off the greatest amount of carbonic acid, and award the *premium* to them.

COFFEES, TEAS, ETC.

SUCCOP & LIPS, Cincinnati, exhibit some excellent specimens of roasted and glazed coffee. They claim some special method of roasting, and have an apparatus that combines some improvement over that in general use, in which the roasting is more evenly done, and the process carried on in an uninterrupted manner. The glazing is said also to preserve the aroma of the coffee after it is burned, and when ground and infused for use, to clear it. *Premium* awarded.

JAMES A. FRAZER & Co., Cincinnati. This firm exhibit an extensive and highly interesting collection of rice, coffee, tea, and sugars, one embracing the productions of almost all countries producing such. The exhibition attracted much attention and was highly appreciated. The collection consisted of the following articles:

EIGHT SAMPLES OF RICE.

Rangoon.
Java.
Patna.

Siam.
Necranzie.
Bassein.

Carolina.
Louisiana, and
Sheaf Rice.

FORTY SPECIMENS OF TEA.

Young Hysons.
Hysons.
Gun Powders.

Imperials.
Oolong.
Souchong.

Pouchong.
Orange Pekoe.
Japan, etc., etc.

Ten specimens Roasted Coffee.

FIFTEEN SAMPLES OF COFFEE.

Old Government Java.
African.
Java.
Singapore.
Mocha.

Costa Rica.
Ceylon.
Ceylon Peaberry.
Ceylon Plantation.
Jamaica.
Maracaibo.

Saranida.
St. Domingo.
Santos.
Laguyra.
Rio.

TEN SAMPLES OF SUGARS.

Lousiana.
Demarara.
Porto Rico.

Cuba.
Loaf.
Cut Loaf.
Crushed.

Powdered.
Granulated.
Refined.

ARNOLD, STURGIS & Co., New York, exhibit the following specimens of coffee, teas, etc.:

COFFEES.

Ceylon.

Java.

Rio.

Mocha.

TEAS.

Japan.

Gun Powder.

Young Hyson.

Oolong.

Hyson.

Formosa.

SECTION 6.

CONDIMENTS.

PARKER & DIXON, Cincinnati, exhibit the following articles :

Ground White Pepper.	Ground Mace.	Tomato Catsup.
" Black Pepper.	" Nutmegs.	Roasted Rio Coffee.
" Alspice.	Extra Blue-Label Mustard.	" Java Coffee.
" Ginger.	Parker & Dixon's Worcester- shire Sauce.	Ground Rio Coffee.
" Cinnamon.	Green Pepper Sauce.	Washing Blue.
" Cloves.		Baking Powder.

Premium on mustard and spices.

E. J. WILSON & Co., Cincinnati, exhibit the following articles:

Ground Pepper.	Ground Ginger.	Washing Blue.
" Alspice.	" Cloves.	Baking Powder.
" Cinnamon.		Mustard.

Honorable mention.

F. DIERLIN & Co., Cincinnati, exhibit:

French Mustard.

HALL & RUCKEL, New York, exhibit the following articles:

Extract Vanilla.	Extract Almond.	Extract Cinnamon.
" Lemon.	" Peach.	" Rose.
	" Nutmegs.	

Premium awarded.

J. W. CALTON exhibits the following:

Extract Vanilla.	Extract Almond,	Extract Cinnamon.
" Lemon.	" Rose.	" Raspberry, etc.

Honorable mention

LOUISIANA ROCK SALT COMPANY exhibit:

Specimens from their Mine.

This article is of great purity, and white in color, and is found in inexhaustible quantity on an island on the coast of Louisiana.

SECTION 7.

NATURAL PRODUCTS, ORES, ETC.

DIXON CRUCIBLE COMPANY, Jersey City, New Jersey, exhibits the following articles:

Dixon's Stove Polish.	Carpenters' Pencils.
Lubricating Plumbago.	Sample of Plumbago, Native.

The stove polish is too well and favorably known to need comment. The carpenters' pencils are worthy of notice; they are solid pencils of plumbago or black lead, and well adapted for the use of carpenters and lumbermen; the mark that they make is bold and not easily obliterated. By accident we have found a new application of these not contemplated by the makers, namely: as carbon points for the electric light, and by experiment they have been found to give a better and steadier light than any other form of carbon.

Premium on stove polish and pencils and lubricating plumbago.

AMERICAN GRAPHITE COMPANY, New York, exhibit the following articles:

Sample of Lubricating Plumbago.
Sample of Native Plumbago.

Graphite Axle Grease.
Plumbago Axle Grease.

Both of the above exhibitors show samples of plumbago for lubricating purposes, and show specimens of the native mineral from which each is made. That of the Dixon Company is free from Gangue rock, the other largely so, which we think difficult to separate completely, so as to produce an article free from grit. That of the Dixon Company is in powder form, that of the other in scales. The powder form we think preferable; that in scales we find by friction to scale from the surface it is applied to—the other not; and, for reasons above, award the *premium* to the Dixon Company for lubricating plumbago.

ARONS & MINOR, Cincinnati, exhibit:

Sample Bales of Sponge.

Sheep's Wool Sponge.

Fine Reef Sponge.

G. C. WATSON, Cincinnati, exhibits:

Three cases containing a large assortment of all kinds of American Machine-Cut Corks.

These, from their uniform excellence, and uniformity in shape and size, are rapidly supplanting those of foreign make in the United States.

ENOCH MORGAN & SONS, New York, exhibit:

A Large Display of Sapolio.

Respectfully,

E. S. WAYNE,
J. S. UNZICKER, M. D.,
CHAS. C. REAKIRT.

AWARDS.

Carret & Langenbeck, Baking Powder.....	Diploma.
O. F. Gordon, Chemicals.....	Diploma.
Smith & Sterrett, Cotton-Seed Oil.....	Diploma.
J. J. Butler, Inks.....	Diploma.
T. S. Butler, Blacking.....	Diploma.
G. C. Watson, Display of Corks.....	Diploma.
Wm. S. Merrell & Co., Drugs and Chemicals.....	Diploma.
A. Erkenbrecher, Starch.....	Large Silver Medal.
Alex. Fries & Bros., Essences.....	Large Silver Medal.
Gest & Atkinson, Head-Light Oil.....	Diploma.
Averill Chemical Paint Co., House Paints.....	Diploma.
Hartmann, Laist & Co., Glycerine.....	Small Silver Medal.
Hall & Ruckel, Flavoring Extracts.....	Diploma.
A. McDonald & Co., Transportation Cans.....	Diploma.
Jno. W. Sharpless & Co., Extract of Logwood.....	Diploma.
Chas. T. White & Co., Chemicals.....	Large Silver Medal.
Janentzky & Co., Water Colors.....	Diploma.
L. O. Cameron, Mixed Gloss Paints.....	Diploma.
Davis, McKean & Co., Refined Sugar.....	Diploma.
Procter & Gamble, Soaps and Lard Oil.....	Large Silver Medal.
L. & J. W. Feuchtwanger, Chemicals.....	Diploma.
Succop & Lips, Roasted and Glazed Coffee.....	Diploma.
R. M. Bishop & Co., Display of Starch.....	Diploma.
Ed. Berghausen & Co., Essences for Liquors, Flavoring Extracts, etc.....	Small Silver Medal.
Clarke & Taylor, Purified Linseed and Cotton-Seed Oil, and Linseed Oil for Artists' Use.....	Diploma.
H. M. Merrell & Co., Fluid Extracts and Resinoids.....	Diploma.
Eckstein, Hills & Co., Pure White Lead.....	Large Silver Medal.
W. J. M. Gordon, Chemicals and Drugs.....	Large Silver Medal.
M. Werk & Co., German Soaps and Star Candles.....	Large Silver Medal.
Parker & Dixon, Mustard, Spices, and Sauces.....	Diploma.
Chas. Moser & Co., Artists' Colors.....	Large Silver Medal.
Joseph Dixon Crucible Co., Stove Polish, Pencils, and Plumbago.....	Diploma.
J. W. Whorton, Chemicals.....	Small Silver Medal.
Powers & Weightman, Chemicals.....	Gold Medal.
Baeder, Adamson & Co., Glue.....	Diploma.

CLASS 17.

Flour and Cured Meats.

JUDGES:

R. M. BISHOP.

ANSILL CARR.

M. KNAUL

No.	Exhibitor.	Residence.	Articles Exhibited.
339	Snider & Bro.....	Cincinnati, O.....	Crackers and Biscuits.
340	Snider & Bro.....	"	Cream Crackers.
534	J. F. Cunningham & Co.	"	Hams.
573	A. S. Tallmadge & Co...	"	Self-Raising Flour.
1162	Frietsch & Zeidler.....	"	Ice-Cured Meats.
1040	Foerster & Perkins.....	"	Crackers.
1664	J. Ellsner & Co.....	"	Flour in Sacks (Ex. only).
1672	James Bradford & Co....	"	Barrel of Flour.
1674	J. Laverne.....	"	French Bread.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The undersigned, being appointed Judges on Class No. 17, beg leave to submit the following report:

No. 1162. We proceeded to a full and complete examination of FRIESTCH & ZEIDLER's ice-cured hams, and found them a superior article. His breakfast bacon also a very superior article for ice-cured meat. His ice-cured beef-tongues were of a very fine quality indeed. His beef as good as beef generally is that is cured in ice, but none of it competes in quality with winter-cured meats, except his beef-tongues and breakfast bacon.

No. 534. We also examined J. F. CUNNINGHAM & Co.'s sugar winter-cured hams, and find them to be of a very extra quality, equal to any we have ever seen.

Nos. 1140, 339 and 340. We have also carefully examined the following articles exhibited by FOERSTER & PERKINS, and by SNIDER & BRO., and find that FOERSTER & PERKINS excel in lemon crackers, soda crackers, Boston crackers, sugar crack-

ers, and ginger snaps; and that Messrs. SNIDER & Bro. excel in oyster crackers, cream crackers, and butter crackers. Messrs. SNIDER & Bro. also exhibited a very superior article of fruit and arrow root crackers, that had no competition, which give to Messrs. FOERSTER & PERKINS a majority of articles that excel.

Nos. 1674. The French bread exhibited by J. LAVERNE, we take pleasure in saying we consider a very superior article of the kind, but had no competition.

No. 573. Messrs. A. S. TALLMADGE & Co., had on exhibition pastry and family self-raising flour, which we find to be a very superior article of the kind.

No. 1672. We also examined the flour shown by JAMES BRADFORD & Co., and find it well ground, good color, and a superior article.

Respectfully,

R. M. BISHOP,
ANSILL CARR,
MICHAEL KNAUL.

AWARDS.

Snider & Bro., Crackers and Biscuits.....	<i>Diploma.</i>
J. F. Cunningham & Co., Hams.....	<i>Large Silver Medal.</i>
Frietsch & Zeidler, Ice-Cured Meats.....	<i>Large Silver Medal.</i>
A. S. Tallmadge & Co., Self-Raising Flour.....	<i>Diploma.</i>
Foerster & Perkins, Crackers and Ginger Snaps.....	<i>Small Silver Medal.</i>
J. Laverne, French Bread.....	<i>Diploma.</i>

CLASS 18.

Pianos, Organs, and Musical Instruments.

JUDGES:

DR. O. D. NORTON. HERMAN GEROLD. CHARLES M. CURRIER.

No.	Exhibitor.	Residence.	Articles Exhibited.
390	Zerbe, Perine & Co.....	Cincinnati, O.....	Extension Piano Treadle.
467	R. L. Atkins & Co.....	"	Piano.
468	R. L. Atkins & Co.....	"	Church Organ.
486	Rudolph Wurlitzer.....	"	Musical Instruments.
487	Rudolph Wurlitzer.....	"	Organs.
488	Kaiser & Kohler.....	"	Musical Instruments.
646	Albert Krell.....	"	Musical Instruments.
1048	Albert Krell.....	"	Pianos.
1019	John Church & Co.....	"	Assortment of Pianos, Organs, and Musical Instruments (Ex. only).
1021	E. Locke.....	Cincinnati, O.....	Assortment of Pianos and Organs (Ex. only).
1092	Lindeman & Sons.....	New York City.....	Cycloid Pianos.
1137	Biere & Seibel.....	Cincinnati, O.....	Piano-forte, Stool, and Cover.
1145	J. Bruce.....	"	Parlor Grand and Concert Grand Pianos.
1146	J. Bruce.....	"	Crystal Palace Grand Piano (Ex. only).
1147	J. Bruce.....	"	Square Grand Piano and American Organs.
1251	D. H. Baldwin.....	"	Dickens' and Chickering's Pianos.
1252	D. H. Baldwin.....	"	J. Early & Co.'s and Farley & Taylor's Organs.
1536	M. Greenwood & Co.....	"	Canterbury for Music Books.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Committee in Class No. 18, having performed the duties devolving on it, respectfully make the following report:

No. 390. ZERBE, PERINE & Co., exhibit an extension piano treadle. No competition. *Commendable.*

No. 488. KAISER & KOHLER, exhibit band instruments (brass and German silver). No competition. Work superior; fine in tone and material. *First degree of merit.*

No. 646. ALBERT KRELL, exhibits a quintette of stringed instruments. No competition. A No. 1 workmanship, superior tone, and equal in every respect to the best known makers. *First degree of merit.*

No. 1137. BIERE & SEIBEL, exhibit a piano-forte. No competition. Manufactured in this city. Highly creditable and deserving *honorable notice.*

No. 1536. M. GREENWOOD & Co., exhibit a canterbury for music books. No competition. *Commendable.*

Your Committee would respectfully suggest that a music rack or canterbury, so-called, is, or should be, for the purpose of keeping the music *clean* and in proper order. All open music racks are alike objectionable on account of exposing the music to the dust. Therefore we would recommend manufacturers to design a *close* and convenient arrangement for this purpose—the Committee believing that an article for this purpose should combine utility and durability as well as beauty. Your Committee also commendably notice, on exhibition, highly creditable collections of musical instruments from the following houses:

R. L. ATKIN & Co., pianos and organs.

R. WURLITZER, organs and miscellaneous instruments.

JOHN CHURCH & Co., pianos, organs, and miscellaneous instruments.

E. LOCKE, pianos and organs.

A. KRELL, pianos.

LINDEMAN & SONS, pianos.

J. BRUCE & Co., pianos.

D. H. BALDWIN, pianos and organs.

All of which is respectfully submitted.

DR. O. D. NORTON,
HERMAN GEROLD,
CHAS. M. CURRIER.

AWARDS.

Kaiser & Kohler, Brass Instruments.....*Large Silver Medal.*
Albert Krell, Musical Instruments.....*Large Silver Medal.*

No.	Exhibitor	Residence	Articles Exhibited
832	Glasgow & Stanton	"	Landscape Photographs
818	J. Landry	"	Paintings
814	W. F. Noble	"	Photographs and Water-Colored Paintings
809	W. S. Porter	"	Plain & Colored Photographs and Views
798	Henry Bagnard	"	Stained Glass
779	Joseph A. Williams	"	Wood Engraving
778	Geo. N. Black	"	Silver & Metal Inlay Plates
709	John H. Branch	"	Wood-Cut Printing
707	Alfred A. Koster	"	Wood Sculpture
680	Mrs. D. S. Garlick	"	Grayon Drawings
669	James W. McLaughlin	"	Architectural Drawings
668	Kohl & Tyler	"	Stereoscopic Museum
658	Reeler & Gurry	"	Initial Engraving and Engravings
612	P. Evans, Jr.	"	Seal Wax Impressions
611	P. Evans, Jr.	"	Hand-Pressing Stamps and Impressions
610	P. Evans, Jr.	"	Seal Engraving and Seal Presses
607	Osselly Adams	"	Wood Engraving
680	Frank Millward	"	Mechanical Drawings
666	Chas. Palm & Co.	"	Transfer Ornamentals, Lithography
559	Wm. W. Spencer	"	and Figures
546	K. Hauer	"	Cork Plates
538	O'Hare & Barry	"	Marble Monuments, Bases, etc.
528	John Gundry	"	Ornamental Penmanship
511	B. Stanton	"	Oil Painting
490	James Murdoch, Jr.	Cincinnati, O.	Stamps, Branda Medals, and Badges
470	G. B. Steadman	Detroit, Mich.	Chrome (Exhibition only)
448	Alfred White	"	Marble Sculpture
435	Wm. Coulter & Son	Cincinnati, O.	Windows of Ornamental and Stained Glass
376	Chas. Hoffer	"	Marble Bases and Medallions
349	M. Schneiderhahn	"	Plaster of Paris Statues
342	M. Schneiderhahn	Louisville, Ky.	Wood Statues
335	Tru. C. Davis	Cincinnati, O.	Oil Paintings

CLASS 19.

Fine Arts, Penmanship, Engraving, and Lithographing.

JUDGES:

GEO. WARD NICHOLS.

R. J. MENEFEY.

WM. S. GROESBECK.

No.	Exhibitor.	Residence.	Articles Exhibited.
333	Ira C. Denise	Cincinnati, O.....	Oil Paintings.
342	M. Schneiderhahn.....	Louisville, Ky.....	Wood Statues.
343	M. Schneiderhahn.....	"	Plaster of Paris Statues.
376	Chas. Bullett.....	"	Marble Bust and Medallion.
435	Wm. Coulter & Son.....	Cincinnati, O.....	Window of Ornamental and Stained Glass.
448	Alfred White.....	"	Marble Sculpture.
470	G. B. Stedman.....	Detroit, Mich.....	Chromo (Exhibition only).
496	James Murdock, Jr.....	Cincinnati, O.....	Stamps, Brands, Medals, and Badges.
511	B. Stanton.....	"	Oil Painting.
528	John Gundry.....	"	Ornamental Penmanship.
533	O'Hare & Barry.....	"	Marble Monuments, Statues, etc.
546	K. Hauser.....	"	Cork Picture.
559	Wm. W. Spencer.....	"	Cast Steel Stamps, Letters, and Figures.
565	Chas. Palm & Co.....	"	Transfer Ornaments, Lithographing.
589	Frank Millward.....	"	Mechanical Drawings.
607	Cassilly Adams.....	"	Wood Engravings.
610	P. Evens Jr.....	"	Seal Engraving and Seal Presses.
611	P. Evens, Jr.....	"	Hand Printing Stamps and Impressions.
612	P. Evens, Jr.....	"	Seal Wax Impressions.
658	Beeler & Curry.....	"	Initial Press and Engravings.
663	Kohl & Tyler.....	"	Stereoscopic Museum.
669	James W. McLaughlin...	"	Architectural Drawings.
680	Mrs. D. S. Carrick.....	"	Crayon Drawings.
707	Allard & Kloster.....	"	Wood Sculpture.
709	John H. Branth.....	"	Wood-Cut Printing.
719	Geo. N. Black.....	"	Silver & Metal Door Plates.
779	Joseph A. Williams.....	"	Wood Engraving.
793	Henry Burgund.....	"	Stained Glass.
800	W. S. Porter.....	"	Plain & Colored Photographs and Views.
814	W. P. Noble.....	"	Water-Colored Paintings.
819	J. Landy.....	"	Photographs and Water-Colored Paintings.
822	Glessner & Stanton.....	"	Landscape Photographs.

CLASS 19.—FINE ARTS, PENMANSHIP, ENGRAVING, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
827	R. T. Clarke.....	Cincinnati, O.....	Oil Paintings.
834	Strobridge & Co.....	".....	Lithographs and Engravings.
846	Wm. Kohl.....	".....	Ornamental Piece (Triumphal Arch).
885	W. Lamprecht.....	".....	Oil Painting.
915	D. H. Whitehead.....	".....	Glass Sign.
921	Charles Waldack.....	".....	Photographs
925	Forristall & Deal.....	".....	Plain Gold Sign.
929	A. Forbriger.....	".....	Specimens of Drawings (Exhibition only).
935	James Powell.....	".....	Silver Medallions.
937	Ehrgott & Krebbs.....	".....	Lithographs and Chromo Painting.
943	Mrs. Herbolzheimer.....	".....	Oil Painting.
953	Charles Ross, Jr.....	".....	Oil Painting.
961	M. Herold.....	".....	Specimens of Penmanship.
975	T. C. Lindsay.....	".....	Oil Paintings.
976	Miss Emma Sayler.....	Hillsboro, O.....	Oil Painting.
1012	T. B. Handy.....	Cincinnati, O.....	Parquetry Flooring.
1017	L. Wiegel & Co.....	".....	Silver and Glass Aquarium.
1024	L. Prang.....	Boston, Mass.....	Chromos.
1039	L. S. Carter.....	Cincinnati, O.....	Worsted Picture.
1050	Louisa Ritter.....	".....	Crayon Drawing.
1061	Leon Van Loo.....	".....	Photographic Portraits in Oil and Water Colors.
1062	Leon Van Loo.....	".....	Plain and Rembrandt Photographs.
1063	Wm. Winter.....	".....	Photographs in Water Colors.
1554	Wm. Winter.....	".....	Paintings on Ivory and Photographs in Water Colors.
1098	Charles Koernlin.....	".....	Engravings.
1110	Tuchfarber & Moellman.	".....	Show Card.
1112	Henry Farny.....	".....	Oil Painting.
1120	John J. De Han.....	".....	Penmanship, and Works on Book-Keeping.
1128	Watson Carr.....	Delaware, O.....	Crayon Portrait.
1139	American Bank Note Co.	Cincinnati, O.....	Engraving & Lithographing.
1150	C. L. Fettweis.....	".....	Life-size American Eagle, in Marble.
1151	C. L. Fettweis.....	".....	Center for a Mantel-piece.
1164	Miss Belle Smith.....	Clermont County, O.	Portrait in Oil.
1175	Warren Richards.....	Cincinnati, O.....	Screw and Lever Presses, Stamps, and Seal.
1176	Warren Richards.....	".....	Seal Impressions.
1193	School of Design, McMicken University.....	".....	Crayon Drawings.
1203	Miss S. H. O'Hara.....	Covington, Ky.....	Oil Paintings.
1204	Miss S. H. O'Hara.....	".....	Crayon Drawing.
1205	Miss S. H. O'Hara.....	".....	Colored Crayon Drawing.
1223	J. & W. Vincent.....	Cincinnati, O.....	Plain Photographs.
1246	Israel Quick.....	".....	Portraits in Oil.
1249	Ed. Carlson.....	".....	Engravings.
1264	T. S. Noble.....	".....	Oil Painting.

CLASS 19.—FINE ARTS, PENMANSHIP, ENGRAVING, ETC., CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1287	T. S. Noble.....	Cincinnati, O.....	Painting.
1288	W. W. Wiswell.....	"	Paintings.
1298	Charles G. Folger.....	"	Mechanical Drawings.
1506	Ætna Insurance Co.	"	Glass Sign (Exhibition only).
1509	Hattie J. Holbrook.....	"	Medallion and Landscape and Lillies.
1510	Hattie J. Holbrook.....	"	Portraits, Flower Pieces, and one Jaure.
1511	Hattie J. Holbrook.....	"	Landscape.
1600	Hattie J. Holbrook.....	"	Oil Painting.
1522	W. A. Marks.....	"	Plaster Figures, Center Piece, and Bracket.
740	Post & Co.....	"	Wheel Cut Glass.
1553	Rev. Hooeken.....	"	Painting.
1556	Charles A. Bauer.....	"	Mechanical Drawing.
1561	Jacob Anselm.....	"	Oil Paintings.
1572	A. P. C. Bonte.....	"	Frames and Bouquet Stands.
1573	A. P. C. Bonte.....	"	Embellishment of Pier Glass, etc.
1663	A. P. C. Bonte.....	"	Display of Frames.
1618	C. T. Webber.....	"	Portraits, Landscapes, and Oil Paintings.
1619	Miss Mary Spencer.....	"	Portraits and Landscapes in Oil.
1635	Joseph J. Sayre.....	"	Stencil Plates.
1660	E. C. L. Mustin & Co....	"	Group of Statuary (Ex. only).
753	Wright & Dennison.....	"	Stencil Plates.
1716	F. Mayer & Sons.....	New York City	Lithographs.
581	Pape Bros. & Kugemann.	Cincinnati, O.....	Frames, Cornices, & Mirrors.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges appointed to decide the merits of articles included in Class No. 19, have the honor to make the following report, and desire to call the attention of the General Committee to the fact that it has been found necessary to sub-divide many of the classifications designated for their judgment, and that these sub-divisions are independent of each other, and entitled to separate awards.

FINE ARTS.

PAINTINGS IN OIL—FIGURE SUBJECTS.

No. 1264. THOS. S. NOBLE. The picture of "Witch Hill" is original in its conception, historical and emotional in its

subject, correct in drawing, vigorous in handling, strong and harmonious in color, and artistic in composition. In these and many other ways it fulfills the high requirements of a pictorial work of art. *First degree of merit* for unexceptional superiority.

No. 1618. C. T. WEBBER, for several paintings which evince painstaking effort, some good drawing, and a certain knowledge of artistic acquirement. Among these pictures a study from nature in the woods deserves special mention. *Second award of merit.*

No. 1246. A. QUICK, painting of photographic pictures. *Honorable mention.*

LANDSCAPE OIL PAINTING.

No. 333. IRA C. DENISE, small picture, "Storm Cloud," which is very carefully drawn, remarkable for light and shade and delicate gradations of color, and for truthful representation of a marked phase of nature. *First award of merit.*

No. 1112. H. FARNY, picture of Coast of Capri. Admirably well painted. *Second award.*

No. 1561. JACOB ANSELM. *Honorable mention.*

No. 1619. Miss MARY SPENCER, especially for fruit painting. *Honorable mention.*

WATER-COLOR PAINTING.

Under this head there are many photographs which have been painted in water color. These are not entitled to the same consideration as if painted all from life, yet so great is the change by this treatment, and so artistic the result, that they stand far above the ordinary retouched photograph.

LANDSCAPE—WATER COLOR.

No. 814. W. P. NOBLE, generally for landscape surroundings of portraits, especially for landscape of a river scene, which is well drawn and good in color, *first award.*

FIGURES—WATER COLOR.

Nos. 1554 and 1063. WM. WINTER, original pictures and photographic portraits in water color. *First award.*

No. 814. WM. P. NOBLE, photograph portraits retouched in water color. *Second award.*

CRAYON DRAWING.

No. 1193. W. WOODWARD, *first award.*

No. 1193. Miss MARY MANN, *second award.*

No. 1193. Miss SNOWDON, *third award.*

The three drawings above named have been contributed from the McMicken School of Design. They are of extraordinary merit, and not only reflect credit upon their authors, but upon the institution which has so admirably educated them.

No. 680. Mrs. D. S. CARRICK, *honorable mention.*

MECHANICAL DRAWING.

No. 589. FRANK MILLWARD, *first award.*

These drawings are masterpieces in one of the most useful as well as difficult of the mechanical arts.

ARCHITECTURAL DRAWING.

No. 669. J. W. McLAUGHLIN, *first award.*

SCULPTURE.

No. 376. CHAS. BULLETT, *first award.*

Honorable mention for monumental sculpture:

No. 448. A. WHITE.

No. 342. M. SCHNEIDERHAHN.

No. 533. O'HARE & BARRY.

No. 707. ALLARD & KLOSTER.

The two last named for extraordinary figure carved in wood

PHOTOGRAPHY.

The general excellence in the display of photographs, and in the striking superiority, in several instances, have made it

difficult to render awards. The decisions finally reached have been the result of careful consideration and reflection. The Judges desire to express their belief that this collection of photographs could not be excelled by any artists elsewhere in this country, if in Europe.

No. 1061. LEON VAN LOO. Not only for excellent workmanship, but for superior artistic arrangement, *first award*.

No. 819. J. LANDY. General excellence. *Second award*.

No. 800. W. T. PORTER. General excellence. *Third award*.

No. 1223. J. & W. VINCENT. *Honorable mention*.

No. 921. CHAS. WALDACK, superior landscape. *Honorable mention*.

ENGRAVING ON STEEL.

No. 1139. AMERICAN BANK NOTE COMPANY. *First award*.

ENGRAVING ON WOOD.

No. 607. CASSILY ADAMS. *First premium or award*.

No. 779. JOS. A. WILLIAMS. *Second award*.

CHROMO-LITHOGRAPHY.

No. 1024. PRANG & Co. *First award*.

No. 937. EHROGOTT & KREBS. Especial merit is due Messrs. Ehrgott & Krebs for the chromo-lithograph of a girl cleaning front door, and the portrait of General Thomas. *Second award*.

LITHOGRAPHY.

No. 834. STROWBRIDGE & Co. *First award*.

No. 1139. AMERICAN BANK NOTE COMPANY. *Second award*.

SEALS AND SEAL PRESSES.

No. 610. P. EVENS, JR. Especially for ingenious construction of seal presses. *First award*.

No. 496. JAS. MURDOCK, JR. *Second award*.

STAMPS, MEDALS, AND BRANDS.

No. 496. JAS. MURDOCK, JR. *First award*.

INITIAL PRESS.

No. 658. BEELER & CURRY. *First award*.

STENCIL PLATES.

No. 1635. J. J. SAYRE. *First award.*

PENMANSHIP.

No. 961. M. HEROLD. *First award.*

No. 528. JOHN GUNDRY. *Second award.*

Third award would have been given to BRYANT, STRATTON & DEHAN, but their work is not recorded in Catalogue of Class No. 19, unless it be that referred to as No. 1120.

PICTURE FRAMES AND MIRRORS.

The display of Mr. PAPE is not catalogued in Class 19.

Nos. 1573 and 1663. A. P. C. BONTE. *First award.*

SILVER AND METAL DOOR PLATES.

No. 719. GEO. N. BLACK. *First award.*

PARQUETRY FLOORING.

No. 1012. T. B. HANDY. *First award.*

AQUARIAS.

No. 1017. L. WEIGEL & Co. *Honorable mention.*

STAINED GLASS.

No. 793. H. BURGUND. *First award.*

No. 435. WM. COULTER & SON. *Second award.*

WHEEL-CUT GLASS.

No. 740. POST & Co. *First award.*

STEREOSCOPES AND VIEWS.

No. 663. KOHL & TYLER. Improved stereoscopes. *First award.*

GEO. WARD NICHOLS,
R. J. MENEFFEE,
W. S. GROESBECK.

SUPPLEMENTARY REPORT.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The Judges in Class 19 beg leave to add the following to their report:

We would have *honorable mention* made of excellent lithographic work from EHRGOTT & KREBS.

To COULTER & SONS we would award the *second premium* for wheel-cut glass, in addition to award already made them.

To HENRY BURGUND we have already awarded *first premium* for ornamental stained window; and in addition would beg to call attention to his work, which is truly artistic and beautiful—unsurpassed by any we have elsewhere seen, and worthy of the highest mark of approval.

If not too late we would ask that above be added to our report.

GEORGE W. NICHOLS,
R. J. MENEFEY.

AWARDS.

Ira C. Denise, Oil Painting Landscape.....	<i>Small Silver Medal.</i>
M. Schneidernahn, Wood and Plaster of Paris Statues.....	<i>Small Silver Medal.</i>
Charles Bullett, Marble Bust and Medallion.....	<i>Large Silver Medal.</i>
Wm. Coulter & Son, Wheel-Cut Glass.....	<i>Diploma.</i>
Alfred White, Display of Marble Sculpture and Monuments.....	<i>Diploma.</i>
James Murdock, Jr., Stamps, Brands, Medals, and Badges.....	<i>Diploma.</i>
John Gundry, Penmanship.....	<i>Diploma.</i>
O'Hare & Barry, Marble Monuments, Statues, etc.....	<i>Diploma.</i>
W. W. Spencer, Cast-Steel Stamps, Letters, and Figures.....	<i>Diploma.</i>
J. Landy, Photographs and Water-Colored Paintings.....	<i>Large Silver Medal.</i>
Strowbridge & Co., Lithographs.....	<i>Large Silver Medal.</i>
Chas. Waldeck, Photographs.....	<i>Diploma.</i>
Ehrgott & Krebs, Lithographs and Chromos.....	<i>Small Silver Medal.</i>
M. Herold, Penmanship.....	<i>Small Silver Medal.</i>
T. C. Lindsay, Landscapes in Oil.....	<i>Small Silver Medal.</i>
T. B. Handy, Parquetry Flooring.....	<i>Diploma.</i>
L. Weigel & Co., Aquariums.....	<i>Diploma.</i>
L. Prang, Chromo Lithographs.....	<i>Large Silver Medal.</i>
Leon Van Loo, Photographs.....	<i>Large Silver Medal.</i>
Wm. Winter, Portraits in Water Colors, and Ivory Paint- ings.....	<i>Large Silver Medal.</i>
Chas. Koernlein, Engraving and Die-Sinking.....	<i>Diploma.</i>
Frank Millward, Mechanical Drawing.....	<i>Large Silver Medal.</i>
Cassilly Adams, Wood Engraving.....	<i>Small Silver Medal.</i>
P. Evens, Jr., Seal Presses, Engravings, Impressions and Hand-Printing Stamps.....	<i>Small Silver Medal.</i>
Beeler & Curry, Initial Press.....	<i>Diploma.</i>
Kohl & Tyler, Stereoscopic Museum.....	<i>Diploma.</i>
Jas. W. McLaughlin, Architectural Drawings.....	<i>Diploma.</i>
Allard & Kloster, Sculpture Work.....	<i>Small Silver Medal.</i>
Geo. N. Black, Silver and Metal Door Plates.....	<i>Small Silver Medal.</i>
Joseph A. Williams, Wood Engraving.....	<i>Diploma.</i>
Henry Burgund, Stained Glass.....	<i>Small Silver Medal.</i>
W. S. Porter, Photographs.....	<i>Large Silver Medal.</i>

Wm. P. Noble, Landscape in Water Colors.....	<i>Large Silver Medal.</i>
Henry Farny, Landscape in Oil	<i>Diploma.</i>
John J. DeHan, Penmanship.....	<i>Diploma.</i>
American Bank Note Company, Lithographs.....	<i>Diploma.</i>
American Bank Note Company, Steel Engravings.....	<i>Large Silver Medal.</i>
J. & W. Vincent, Photographs.....	<i>Diploma.</i>
Israel Quick, Portraits in Oil	<i>Diploma.</i>
T. S. Noble, Oil Painting of Figures.....	<i>Large Silver Medal.</i>
Post & Co., Wheel-Cut Glass.....	<i>Diploma.</i>
Jacob Anselm, Oil Paintings.....	<i>Diploma.</i>
A. P. C. Bonte, Embellishment of Pier Glass, Picture Frame, and Bouquet Stands.....	<i>Large Silver Medal.</i>
C. T. Webber, Portraits in Oil.....	<i>Small Silver Medal.</i>
Miss Mary Spencer, Oil Painting, Landscape, etc.....	<i>Diploma.</i>
Joseph J. Sayre, Stencil Plates.....	<i>Diploma.</i>
Ferd. Mayer & Sons, Lithographs.....	<i>Small Silver Medal.</i>
Pape Bros. & Kugeman, Frames, Mirrors, and Cornices.....	<i>Small Silver Medal.</i>
Warren Richards, Seals and Seal Presses.....	<i>Diploma.</i>

CLASS 20.

Books, Printing, and Binding.

JUDGES:

E. T. CARSON.

ACHILLES PUGH.

F. KARRMAN.

No.	Exhibitor.	Residence.	Articles Exhibited.
355	Harding, Erwin & Co....	Middletown, O.....	Letter and Note Paper.
392	Haldeman Paper Co.....	Lockland, O.....	Wrapping, Roofing, and Sid- ing Paper.
451	John M. Scudder.....	Cincinnati, O.....	Books, Electrotypes, and Wood-Cuts.
507	J. W. Tenney & Co.....	"	Penn Letter Book.
508	H. D. Rogers.....	"	Manifold Writing and Print- ing Books.
685	Clegg Bros. & Co.....	"	Printing — Pamphlets and Price Lists.
766	McKay & Cullin.....	"	Electrotype Plates.
782	Young Men's Bible So- ciety	"	Case of Bibles.
817	W. S. Baldwin & Co.....	"	Scrap Books.
977	Wilson, Hinkle & Co.....	"	Blank and School Books.
1133	Byron Weston.....	Dalton, Mass	Blank Book and Writing Paper.
1134	Dennison & Co.....	Boston, Mass.....	Shippers' Tags.
1135	Wilstach, Baldwin & Co.	Cincinnati, O.....	Specimens of Binding.
1519	J. F. Saunders & Co.....	"	Books, Printing and Binding.
1657	Kalamazoo Paper Co.....	Kalamazoo, Mich....	Paper.
1658	J. C. Gaston	Cincinnati, O.....	Patent Envelopes.
1662	Geo. S. Blanchard.....	"	Books and Stationery (Exhi- bition only).
1685	Methodist Book Concern	"	Books (Exhibition only).

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—We have examined all the articles named in the official catalogue of Class 20, and respectfully submit our detailed report, as follows, viz:

WRITING, NOTE, LETTER, AND CAP PAPER.

There are three exhibitors, viz: No. 1135, WILSTACH, BALDWIN & Co.; No. 1133, BYRON WESTON; and No. 1662, GEORGE

S. BLANCHARD & Co.; all of which are of equal and the *first degree of merit* in their kind.

No. 392. Roofing, siding, and wrapping-paper, exhibited by HALDEMAN & Co., of Lockland. The articles submitted appear to be of the first quality in their kind. No competition.

JOHN M. SCUDDER (Lot 451), and MCKAY & CULLEN (No. 766), exhibit electrotypes plates; whether for competition as to quality we have no means of knowing. In our opinion they are of equal and no remarkable degree of superiority.

PRINTED BOOKS.

There are two lots exhibited. No. 451, JOHN M. SCUDDER, and No. 977, WILSON, HINKLE & Co. The former are only mediocre; the latter, consisting of school and scientific books, are of the *highest degree of merit*, for both typographical execution and paper.

No. 685. Printed pamphlets, price lists, business cards, etc., CLEGG, BROS. & Co. To them we award the *first degree of merit*, for typographical execution, and tasteful arrangement and design in this line.

No. 508. H. D. ROGERS exhibits books for manifold writing and printing. This is an ingenious and simple time and labor-saving invention, which must prove of much value to merchants, bankers, brokers, etc. It certainly deserves most *honorable mention*.

No. 782. YOUNG MEN'S BIBLE SOCIETY. This association makes a most beautiful and interesting display of Holy Bibles, in no less than twenty different languages.

No. 1519. J. F. SAUNDERS & Co. exhibit specimens of commercial printing, paper, and binding; the first two of first quality, the binding inferior.

No. 1657. KALAMAZOO PAPER COMPANY. Two reams of news paper, of first quality. No competition.

No. 1658. J. C. GASTON exhibits patent envelopes, the merits of which have not, perhaps, been fully appreciated by us, as we can not say that they possess any decided practical advantage over an ordinary good envelope.

No. 1662. GEORGE S. BLANCHARD exhibits a case of miscellaneous books, English and American, and stationery; nothing, however, meriting special notice or commendation.

WHITE, CORBIN, BOUVE & Co. exhibit a fine assortment of first-class letter envelopes; nothing meriting special commendation. No competition.

No. 817. W. S. BALDWIN & Co. exhibit three scrap-books. Why they are exhibited we can not imagine; certainly for no merits they possess, either for mechanical execution, literary or artistic merit in the contents, or as antiquarian curiosities.

No. 977. WILSON, HINKLE & Co. exhibit blank books of good and substantial workmanship and material. *First degree of merit*, for general use for mercantile and banking houses.

No. 1134. DENNISON & Co. exhibit samples of shippers' tags. They appear to be first-class in their line. No competition.

No. 1135. WILSTACH, BALDWIN & Co. exhibit a show-case of blank books, specimens of binding, and writing paper. The blank books exhibited, in fancy and elaborate bindings, are in every respect all that skilled workmanship and the best material can make them.

The blank books, which appear to have been made to order, are only ordinary.

The specimen of binding of printed books is first-class in its line. No competition.

Messrs. Wilstach, Baldwin & Co. make the finest and most attractive display in their line.

Your Committee regret to say that the exhibition of articles under Class 20 is very meagre, and altogether unworthy of this magnificent Exposition, so rich, full and varied in nearly all the other subdivisions or classes into which it is divided.

The book interests of Cincinnati and vicinity ought to have been better represented in this Exposition. As it is, there is but little worthy competition in this department.

Respectfully submitted,

E. T. CARSON,
F. KARRMANN,
ACHILLES PUGH.

AWARDS.

Harding, Erwin & Co., Letter Paper.....	Diploma.
Haldeman Paper Co., Wrapping, Roofing, and Siding Paper.....	Diploma.
John M. Scudder, Books and Electrotypes.....	Diploma.
H. D. Rogers, Manifold Writing and Printing.....	Diploma.
Clegg Bros. & Co., Printing.....	Diploma.
Young Men's Bible Society, Bibles.....	Diploma.
Wilson, Hinkle & Co., Blank and School Books.....	Diploma.
Byron Weston, Blank Books, Papers.....	Large Silver Medal.
Dennison & Co., Shippers' Tags.....	Diploma.
Wilstach, Baldwin & Co., Binding.....	Diploma.
Kalamazoo Paper Co., News Paper.....	Diploma.

ACHILLES PUGH
F. KARMANN
E. T. CARSON

Respectfully submitted,

CLASS 21.

Ladies' Department.

JUDGES:

MRS. W. P. HULBERT. MRS. ENOCH CARSON. MRS. JOHN MORRISON.

No.	Exhibitor.	Residence.	Articles Exhibited.
304	Miss Emma Alexander...	Cincinnati, O	Hair Work.
305	Miss Emma Alexander...	"	Pond Lily in Wax.
306	Miss Emma Alexander...	"	Wax Flowers.
307	Miss Emma Alexander...	"	Wax Work Refreshment.
469	G. W. Tarr & Co.....	"	Lace Collars.
498	Mrs. B. Stanton.....	"	Afghan.
518	Mrs. T. H. Woodworth...	"	Worsted Needle-Work, Wax Work, Sea Moss, and Shells.
525	Miss Mollie Asbury.....	"	Quilt.
540	Mrs. Tombach	"	Agricultural Wreath.
566	Mrs. Henry Brothers.....	"	Wax Work.
1022	Mrs. Henry Brothers.....	"	Carriage Cover and Fancy Worsted-Worked Picture.
567	Miss Emma Hart.....	"	Chess Table and Fancy Needle- Work.
576	Miss K. Marshall	Covington, Ky.....	Fancy Work.
606	Mrs. W. A. Melbourne...	Grahampton, Ky....	Knit Comfort and Stockings.
619	Mrs. J. S. Baker.....	Newport, Ky.....	Wax Flowers, Hair and Shell Work.
620	Mrs. J. S. Baker.....	"	Wax Cross and Pond Lilies.
720	Mrs. Lizzie L. Sivet.....	Cincinnati, O.....	Beaded Velvet and Satin Slippers.
721	Mrs. Lizzie L. Sivet.....	"	Silk Quilt, Stool Covers, and Lamp Mat.
763	Mrs. L. Drury.....	Springfield, O.....	Chart for Cutting Garments.
773	M. T. Hough & Co.....	Cincinnati, O.....	Millinery Goods.
792	Miss Mary Creed.....	"	Needle-Worked Picture and Fancy Basket.
809	Miss R. A. Williams.....	"	Trimmed Patterns.
872	Mrs. C. T. Crane.....	"	Hair Wreath.
960	Mrs. Thos. Braund.....	"	Table Cloth, Ottoman Covers, Mat, Pin Cushion and Watch Pocket Combined.
1010	American Button-Hole Overseaming and Sew- ing Machine Co.....	"	Sewing Machine Work.
1011	American Button-Hole Overseaming and Sew- ing Machine Co.....	"	Button-Hole Machine Work.
1023	Mrs. D. S. Carrick.....	"	Wax Flowers.
1049	Louisa Ritter.....	"	Net Work Tidies.
1056	Miss Mason.....	"	Quilt.

CLASS 21.—LADIES' DEPARTMENT, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1057	Miss Abbie J. Colton....	Cincinnati, O.....	Lace Collar.
1060	Mrs. John Wynne.....	".....	Crochet Bed Quilt.
1093	Mrs. W. F. Kelly.....	".....	Knit Afghan.
1105	Mrs. M. T. Hough.....	".....	Bed Quilt.
1125	Mrs. Walker.....	".....	Case of Ferns.
1126	Mrs. Walker.....	".....	Fern Cross.
1127	Mrs. Kate Davis.....	Oxford, O.....	Bed Quilt.
1152	Mrs. M. T. Carey.....	Cincinnati, O.....	Worsted Picture.
1165	Mrs. M. Dunham.....	".....	Wax Leaves.
1198	Mrs. T. B. Richards.....	".....	Wax Flowers and Cross.
1199	Mrs. W. H. Bristol.....	".....	Wax Flowers and Cross.
1206	Miss Susie H. O'Hara....	Covington, Ky.....	Circular Bead Stand.
1209	Cedar Grove Academy...	Cincinnati, O.....	Needle-Work.
1216	Rebecca Meeds.....	".....	Quilt.
1237	Geo. Atkins.....	".....	Embroidery (Silk Worsted and Chenille).
1271	Geo. Atkins.....	".....	Needle-Work Pictures.
1239	Miss Mary Lender.....	".....	Bleached Ferns.
1250	Mrs. Chas. Folger.....	".....	Wax Leaves.
1272	Will E. Atkins.....	Clifton, O.....	Needle-Work Picture.
1294	Miss Ada Myer....	Cincinnati, O.....	Pictures on Canvas.
1517	Miss M. M. Sterrett.....	".....	Worsted-Work Picture.
1525	Mrs. E. Draper.....	".....	Hand-Made Quilt.
1555	Mrs. L. C. R. Jones.....	".....	Vase of Skeleton Leaves.
1558	Mrs. M. J. Richardson...	".....	Hair Wreath.
1563	Margaret Fellner and Mrs. B. Schwartz.....	".....	Feather Wreath.
1564	Margaret Fellner and Mrs. B. Schwartz.....	".....	Grass Wreath.
1567	Miss M. Miles.....	".....	Cross.
1568	Miss M. Miles.....	".....	Autumn Leaves.
1581	Mrs. N. J. Sheppard.....	Petersburg, Ky.....	Counterpane Worsted Comfort and Silk Quilt.
1627	Miss Irene Gordon.....	Cincinnati, O.....	Wax Work.
1632	Mrs. C. Bross.....	".....	Alpacca Plaid Shoes.
1644	Miss Ida Bagley.....	".....	Worsted-Work Picture.
1647	Miss Carrie Potts and Amelia Schlitzberger..	".....	Silk Flowers and Wreath.
1653	Mrs. McClelland.....	".....	Shell Flowers.
781	S. Wilson.....	".....	Ladies' Cloaks, Dresses, and Millinery.
1668	Sarah A. Tatem.....	".....	Quilt.
1671	Esselborn Bros.....	".....	Millinery Goods (Ex. only).
1684	Mrs. Schultz.....	".....	Wax Work (Ex. only).
564	Devou & Co.....	".....	Millinery Goods.
1686	Miss Rebecca Bloom.....	".....	Picture in Wool.
1689	Miss Maggie B Truman.	".....	Wax Flowers.
1702	Wilcox & Gibbs Sewing Machine Company.....	".....	Sewing-Machine Work.
1166	Miss Wilhelmina Ill.....	".....	Worsted-Work Picture.
1042	Mrs. M. H. Willeke.....	".....	Worsted-Work Picture.
1717	Jeffras, Seeley & Co.....	".....	Bonnets.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition :

GENTLEMEN :—The contributors of hand-work in the ladies' department deserve much credit for the skill, industry, and taste displayed. While most of the articles deserve favorable comment, many are superior.

The framed needle-work are specimens that can scarcely be excelled, all being skillfully and artistically executed. It is a delicate and difficult task to decide the relative grades of merit between some of them.

WORSTED NEEDLE-WORK.

No. 1644. By Miss IDA BAGLEY, and No. 518, by Mrs. WOODWORTH, deserve alike the *first degree of merit*, both being superior specimens.

No. 1686. By Miss REBECCA BLOOM, and No. 1271, Signing the Declaration of Independence, by Mrs. TAYLOR (sixty-five years of age), rank alike in the *second degree of merit*.

No. 792. Washington, by Miss MARY CREED; No. 1166, Madonna, by Miss WILHELMINA ILL; No. 1042, Savior, by Mrs. H. WILLEKE; and 1152, Flight into Egypt, by Mrs. Dr. M. T. CAREY, rank equal, deserving the *third degree of merit*.

No. 1272. Washington by Mr. WILL E. ATKINS; the same subject, by Mrs. CARTER; and No. 1294, by Miss ADA MEYER, deserve *honorable mention*.

WAX WORK.

In wax work Mrs. SHULTZ's Lunch is perfect in all its parts, and deserves the *highest merit*, but is only for exhibition.

No. 566. Lunch, by Mrs. HENRY BROTHERS, is very good, and deserves the *first merit*, being for competition.

No. 1023. Stand of wax fruit, by Mrs. D. S. CARRICK, is also fine, and deserves merit.

The wax flowers are not superior; but those contributed by Mrs. BRISTOL, No. 1199; Mrs. RICHARDS, No. 1198; Miss TRUMAM, No. 1689; and by Mrs. J. BAKER, No. 619, are worthy of same degree of merit.

WAX CROSSES.

Miss MAGGIE TRUMAN deserves the *first degree of merit*.

No. 566. By Mrs. HENRY BROTHERS, and No. 1627, by Miss IRENE GORDON, deserves the *second degree of merit*.

SKELETON LEAVES.

No. 1125. Case of ferns, by Mrs. WALKER, worthy of *first merit*.

No. 1555. Bouquet of leaves in vase, by Mrs. L. C. JONES, the *second degree of merit*.

No. 304. Stand of ferns, by Miss EMMA ALEXANDER, the *third degree of merit*.

No. 1250. Autumn leaves in wax, by Mrs. CHAS. FOLGER, deserving the *second degree of merit*.

No. 1165. Autumn leaves in wax, by Mrs. M. DUNHAM, the *first degree of merit*.

No. 1568. Autumn leaves in wax, by Miss M. MILES, the *third degree of merit*.

HAIR WORK.

No. 619. Hair wreath, by Mrs. J. S. BAKER; and No. 872, hair wreath, by Mrs. CRANE, deserve alike the *first degree of merit*.

No. 304. Hair wreath, by Miss E. ALEXANDER, and No. 1558, hair wreath, by Mrs. RICHARDSON, are awarded the *second degree of merit*.

PIECED QUILTS.

No. 525. By Miss MOLLIE ASBURY, is awarded the *first degree of merit*.

No. 1105. By Mrs. M. T. HOUGH, the *second degree*.

No. 1127. By Miss KATE DAVIS, the *third degree*.

* KNIT SPREADS.

No. 1581. By Mrs. N. J. SHEPPARD, deserves *first degree of merit*.

No. 606. By Mrs. W. A. MELBOURNE, the *second degree*.

No. 1060. By Mrs. JOHN WYNNE, the *third degree*.

No. 1049. The net-work tidies, by LOUISA RITTER, are superior in their fine workmanship, and deserve the *first degree of merit*.

No. 567. Miss EMMA HART's productions, particularly the silk embroidered opera cloak, deserve the *first degree of merit*.

No. 576. The articles exhibited by Miss K. MARSHALL are very beautiful, her chenille embroidery deserving *first merit*.

No. 720. Satin and velvet slippers, by Mrs. L. SIVET, are worthy of *honorable mention*.

AFGHANS.

No. 498. By Mrs. B. STANTON, deserves the *second merit*.

No. 1093. By Mrs. W. F. KELLY, is awarded the *second merit*.

No. 540. Agricultural wreath, by Mrs. TOMBACH, is very ingenious and beautiful, and deserves *honorable mention*.

No. 1206. The bead stand, by Miss S. H. O'HARA, is worthy of *honorable mention*.

No. 1563. Wreath made of feathers, by MARGARET FELLNER, which displays mechanical skill and taste, deserves the *first degree of merit*. No competition.

No. 1564. Wreath made of grass, by Mrs. B. SCHWARTZ, for skill and tasteful arrangement, deserves the *second degree of merit*. No competition.

No. 1647. Silk flowers, by Miss CARRIE POTTS and Miss AMELIA SCHLITZBERGER, are very ingenious, and worthy of *honorable mention*.

No. 1653. Vase of shell flowers, by Mrs. McCLELLAND, is skillfully arranged, and deserves *honorable mention*.

No. 1057. Lace collar, by Miss ABBIE J. COLTON, deserves *honorable mention*. No competition.

No. 763. Chart for cutting garments, by Mrs. L. DRURY, worthy of *first merit*.

No. 809. Trim patterns, by Miss R. A. WILLIAMS, are skillfully executed; deserving of *merit*. Without competition.

No. 1702. The specimens of work by the WILCOX & GIBBS sewing machine are superior, and deserve the *first degree of merit*.

Nos. 1010 and 1011. The work exhibited by the American button-hole overseaming and sewing machine is excellent, and deserves much credit, the button-hole being superior and deserves the *first merit*. No competition.

No. 781. Articles exhibited by S. WILSON are superior, particularly cloaks, dresses, and ladies' underwear; all deserving the highest merit for taste and neatness. The millinery department deserves the *second degree of merit*.

MILLINERY.

No. 1717. The bonnets of JEFFRAS, SEELEY & Co., are superior, deserving the *first merit*.

Nos. 564. Millinery goods, by DEVOU & Co., and No. 773, the same, by Mrs. HOUGH & Co., deserve the *second degree of merit*.

No. 1671. Millinery goods, by ESSELBORN BROS., exhibit superior work, worthy of *honorable mention*. For exhibition only.

No. 469. Case of lace collars, by G. W. TARR & Co., deserve the *second degree of merit*.

Nos. 1216. Quilt, by REBECCA MEEDS, and No. 1668, the same, by SARAH A. TATEM, deserve *honorable mention*.

No. 960. Fancy articles, by Mrs. THOS. BRAUND, worthy of *honorable mention*.

No. 1517. Worsted work, by Miss M. M. STERRETT; mediocre only.

No. 1632. Alpaca plaid shoes, by Mrs. C. BROSS; mediocre only.

AWARDS.

Miss Emma Alexander, Hair and Wax Work.....	Diploma.
G. W. Tarr & Co., Lace Collars.....	Diploma.
Mrs. B. Stanton, Afghan.....	Diploma.
Mrs. T. H. Woodworth, Worsted Needle-Work.....	Small Silver Medal.
Miss Mollie Asbury, Quilt.....	Diploma.
Mrs. Tombach, Agricultural Wreath.....	Diploma.
Mrs. Henry Brothers, Wax Work.....	Diploma.
Miss Emma Hart, Chess Table and Fancy Needle-Work.....	Diploma.
Miss K. Marshall, Fancy Work and Chenille Embroidery.....	Diploma.
Mrs. W. A. Melbourne, Knit Comfort and Stockings.....	Diploma.
Mrs. J. S. Baker, Hair and Shell Work.....	Diploma.
Mrs. Lizzie L. Sivet, Satin and Velvet Slippers, Quilt, and Stool Covers.....	Diploma.
Mrs. L. Drury, Chart for Cutting Garments.....	Diploma.
Mrs. C. T. Crane, Hair Wreath.....	Diploma.
M. T. Hough & Co., Millinery Goods.....	Diploma.
Miss Mary Creed, Needle-Worked Picture and Fancy Basket.....	Diploma.
Miss R. A. Williams, Trimming Patterns.....	Diploma.
Mrs. Thomas Braund, Table-Cloth, Ottoman Covers, etc.....	Diploma.
American Button-Hole and Overseaming Sewing Machine Company, Specimens of Button-Hole Work.....	Small Silver Medal.
Mrs. D. S. Carrick, Wax Flowers.....	Diploma.
Louisa Ritter, Net-Work Tidy.....	Diploma.
Miss Abbie J. Colton, Lace Collar.....	Diploma.
Mrs. John Wynne, Crotchet Bed-Quilt.....	Diploma.
Mrs. W. F. Kelly, Afghan.....	Diploma.
Mrs. M. T. Hough, Quilt.....	Diploma.
Mrs. Walker, Case of Ferns.....	Diploma.
Miss Kate Davis, Quilt.....	Diploma.
Mrs. M. T. Carey, Worsted Picture.....	Diploma.
Mrs. Dunham, Wax Leaves.....	Diploma.
Mrs. T. B. Richards, Wax Work.....	Diploma.
Mrs. W. H. Bristol, Wax Work.....	Diploma.
Miss Susie H. O'Hara, Circular Bead Stand.....	Diploma.
Rebecca Meeds, Quilt.....	Diploma.
Geo. Atkins, Needle-Worked Picture.....	Diploma.
Geo. Atkins, Silk-Worsted and Chenelle Work.....	Diploma.
Mrs. Charles Folger, Wax Leaves.....	Diploma.
Will E. Atkins, Needle-Worked Picture.....	Diploma.
Miss Ada Myer, Pictures on Canvas.....	Diploma.
Mrs. L. C. R. Jones, Bouquet of Skeleton Leaves.....	Diploma.
Mrs. M. J. Richardson, Hair Wreath.....	Diploma.
Margaret Fellner and Mrs. B. Schwartz, Feather and Grass Wreath...	Diploma.
Miss M. Miles, Wax Cross and Leaves.....	Diploma.
Mrs. N. J. Sheppard, Knit Spreads.....	Diploma.
Miss Irene Gordon, Wax Work.....	Diploma.

Miss Ida Bagley, Worsted Needle-Work.....	Small Silver Medal.
Miss Carrie Potts and Amelia Schlitzberger, Silk Flowers.....	Diploma.
Mrs. McClelland, Shell Flowers.....	Diploma.
S. Wilson, Cloaks, Dresses, and Underwear.....	Large Silver Medal.
Mrs. Sarah A. Tatem, Quilt.....	Diploma.
Devou & Co., Millinery Goods.....	Diploma.
Miss Rebecca Bloom, Picture in Wool.....	Diploma.
Miss Maggie B. Truman, Cross of Wax Flowers.....	Diploma.
Wilcox & Gibbs Sewing Machine Company, Samples of Sew- ing Machine Work.....	Small Silver Medal.
Mrs. M. H. Willeke, Picture in Worsted.....	Diploma.
Jeffras, Seeley & Co., Trimmed Bonnets.....	Small Silver Medal.

Mrs. J. S. Baker, Hair and Shell Work.....	Diploma.
Mrs. Lizzie L. Silver, Satin and Velvet Shippers, Quilt and Stool Cov- ers.....	Diploma.
Mrs. L. Drury, Chart for Cutting Garments.....	Diploma.
Mrs. G. T. Crane, Hair Wreath.....	Diploma.
M. T. Hough & Co., Millinery Goods.....	Diploma.
Miss Mary Greed, Needle-Worked Picture and Fancy Basket.....	Diploma.
Miss R. A. Williams, Trimming Patterns.....	Diploma.
Mrs. Thomas Brand, Table-Cloth, Ottoman Covers, etc.....	Diploma.
American Button-Hole and Oversewing Sewing Machine Com- pany, Specimens of Button-Hole Work.....	Small Silver Medal.
Mrs. D. S. Carick, Wax Flowers.....	Diploma.
Logan Ritter, Net-Work Tidy.....	Diploma.
Miss Abbie J. Cotton, Lace Collar.....	Diploma.
Mrs. John Wynn, Crocheted Bed-Quilt.....	Diploma.
Mrs. W. F. Kelly, Afghan.....	Diploma.
Mrs. M. T. Hough, Quilt.....	Diploma.
Mrs. Walker, Case of Forns.....	Diploma.
Miss Kate Davis, Quilt.....	Diploma.
Mrs. M. T. Carey, Worsted Picture.....	Diploma.
Mrs. Dunham, Wax Leaves.....	Diploma.
Mrs. T. B. Richards, Wax Work.....	Diploma.
Mrs. W. H. Bristol, Wax Work.....	Diploma.
Miss Annie H. O'Hara, Circular Head Stand.....	Diploma.
Rebecca Meeds, Quilt.....	Diploma.
Geo. Atkins, Needle-Worked Picture.....	Diploma.
Geo. Atkins, Silk-Worsted and Chenille Work.....	Diploma.
Mrs. Charles Folger, Wax Leaves.....	Diploma.
Will E. Atkins, Needle-Worked Picture.....	Diploma.
Miss Ada Myer, Pictures on Canvas.....	Diploma.
Mrs. L. C. R. Jones, Boudoir of Skeleton Leaves.....	Diploma.
Mrs. M. J. Richardson, Hair Wreath.....	Diploma.
Margaret Feltner and Mrs. B. Schwartz, Feather and Grass Wreath.....	Diploma.
Miss M. Miles, Wax Cross and Leaves.....	Diploma.
Mrs. N. J. Shepard, Knit Spreads.....	Diploma.
Miss Irene Gordon, Wax Work.....	Diploma.

CLASS 22.

Confections, Preserves, and Wines.

JUDGES:

SAMUEL B. WARREN.

W. P. ANDERSON.

GEO. D. MARTIN.

No.	Exhibitor.	Residence.	Articles Exhibited.
350	American Wine Comp'y..	St. Louis, Mo.....	Sparkling Catawba Wine.
439	A. Swope.....	Philadelphia, Pa.....	Hermetical Preserved Fruit.
521	James Gates & Co.....	Cincinnati, O.....	Candies and Confections.
617	Albert Fischer & Co.....	"	Jellies, Preserves, and Canned Fruits.
780	M. Nathan & Co.....	"	Fancy Candies.
883	Colter Packing Comp'y..	"	Canned Fruits, and Vegetables.
959	Rauch & Sons.....	"	Rauch's Cordial.
964	Prince & Walton.....	"	Liquors.
979	P. Echert & Co.....	"	Plain and Fancy Confectionary.
1025	Geo. Bogen & Son.....	"	Native and Sparkling Wines.
1033	Keppler & Bro.....	"	Confectionary.
1096	M. Werk & Sons.....	"	Native Wines.
1113	N. A. Wittman.....	"	Chocolate.
1161	A. G. Peck....	"	Blackberry, Currant, Rhubarb, and Tomato Wines.
1665	E. A. Thompson.....	"	American Wines, and Grape Brandy (Exhibition only).

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—The undersigned, having been appointed Judges, according to the 6th of the General Rules and Regulations governing the Exposition, of Class 22, consisting of confections, preserves, and wines—Samuel B. Warren, appointed by the General Committee, Wm. P. Anderson, by the exhibitors, and Geo. D. Martin by the two thus appointed—would respectfully state that they have availed themselves of every opportunity to examine into the merits of the articles belonging to that class. Several days have been devoted

to the inspection, examination, and testing of the various articles.

The methods employed in determining the merits of the articles were by actual view, smelling, and tasting.

They would respectfully report as follows: On Saturday, the 8th inst., they met together and Mr. Samuel B. Warren was selected as Chairman, and Geo. D. Martin as Secretary.

We recommend that the award be made to:

No. 1033. KEPLER & BRO., best display of fancy confectionary.

No. 979. P. ECHERT & Co., best display of plain confectionary.

No. 1113. N. A. WITTMAN, a small but good display of chocolate—only display. Worthy of *honorable mention*.

No. 780. M. NATHAN & Co., a creditable display of fancy candies.

No. 521. JAMES GATES & Co., a case of candies and confections. Unworthy of mention.

No. 617. ALBERT FISCHER & Co., best general display of canned fruits, jellies, catsups, and fruit syrups.

No. 883. COLTER PACKING COMPANY, a creditable display of canned fruit and vegetables. Worthy of *honorable mention*.

No. 439. A. SWOPE, a case of preserved fruit, which looks better than it tastes or smells. The top layers—say three or four—have a very disagreeable taste and smell.

No. 964. PRINCE & WALTON, good samples of whisky, gin, and brandy.

While testing the wines great precaution was used by the Judges. The bottles were opened and glasses filled by an assistant, *out of our sight*, the glasses numbered to correspond with numbers on the bottles, the Judges each using a slip of paper on which to note his opinion and conclusion, and these slips compared after having finished testing a particular kind of wine, and before knowing what wines the numbers represented.

We recommend that the award be made to:

No. 1096. M. WERK & SONS, the *first degree of merit* for sparkling catawba wine, "Golden Eagle."

No. 1025. GEO. BOGEN & SON, the *second degree of merit* for sparkling catawba wine, "Diamond."

No. 350. AMERICAN WINE COMPANY, St. Louis, Missouri, the *third degree of merit* for sparkling catawba wine, "Imperial."

Your Judges beg leave to state, in regard to the three wines above named—there being no other competitors in this kind of wine—they are so nearly alike in quality, taste, and flavor, that it required of us several testings in order that the tongue and palate might catch the taste, and distinguish the flavor, to enable us to arrive at the conclusion we report above. We would further state that, after our opinions had been formed and our conclusions marked down, several gentlemen serving as Judges in other classes of the Exposition, and whom we know to be good judges of sparkling wines, were invited to test these wines, which they did, under the same rules and restrictions as ourselves. We are happy to say that their opinions and conclusions coincided with those of your Judges.

We recommend that the award be made to GEO. BOGEN & SON, the *first degree of merit* for sparkling Delaware, Concord, Isabella, and Norton's Virginia Seedling wines. Also for still Catawba, Delaware, and Norton's Virginia Seedling wines. And to M. WERK & SONS the *second degree of merit* for the same kind of wines.

Your Judges think that the white sparkling wines are preferable to the red; and of the red sparkling wines think Isabella is the best.

Of the sparkling Diana and Ives' Seedling—"Red Cross"—exhibited by M. WERK & SONS, there being no competition, we think they are good.

To M. WERK & SONS the *first degree of merit* for still Concord and Ives' Seedling wines; and to GEO. BOGEN & SON the *second degree of merit* for the same kind of wines.

To GEO. BOGEN & SON the *first degree of merit* for catawba brandy and cherry bounce, the competitors in catawba brandy being PRINCE & WALTON.

In concluding this report, your Judges desire to express their gratification in being able to state that great harmony and unanimity prevailed during their labors. But once, and that on a matter of minor importance, was two votes cast against one.

All of which is respectfully submitted.

S. B. WARREN,
GEO. D. MARTIN,
WM. P. ANDERSON.

AWARDS.

American Wine Co., Catawba Wine.....	<i>Small Silver Medal.</i>
Albert Fischer & Co., Jellies, Preserves, and Canned Fruits..	<i>Small Silver Medal.</i>
M. Nathan & Co., Fancy Candies.....	<i>Diploma.</i>
Colter Packing Co., Canned Fruits and Vegetables.....	<i>Diploma.</i>
P. Echert & Co., Candies.....	<i>Small Silver Medal.</i>
Keppler & Bro., Fancy Confectionary.....	<i>Small Silver Medal.</i>
N. A. Wittman, Chocolate.....	<i>Diploma.</i>
M. Werk & Sons, Sparkling Catawba.....	<i>Gold Medal.</i>
Geo. Bogen & Son, Still Catawba, Sparkling Concord, and Delaware.....	<i>Gold Medal.</i>
M. Werk & Sons, Still Concord and Ives' Seedling.....	<i>Diploma.</i>
Geo. Bogen & Son, Catawba Brandy and Cherry Bounce.....	<i>Diploma.</i>

CLASS 23.

Fancy Merchandise.

JUDGES:

A. P. C. BONTE,

W. H. TAYLOR.

No.	Exhibitor.	Residence.	Articles Exhibited.
608	Strobel & Wilken.....	Cincinnati, O.....	Fancy Merchandise.
637	J. W. Mitchell.....	"	Fancy Straw Air-Castle.
695	L. C. Hopkins & Co.....	"	Fancy Dry Goods.
888	J. R. Peebles' Sons.....	"	Assortment of Spices.
967	W. W. Hanly & Co.....	"	Packages of Tea.
1086	Hulbert Bros.....	"	Fancy Knit Tidy.
1087	Hulbert Bros.....	"	Fancy Knit Goods.
1088	Hulbert Bros.....	"	Assorted Hosiery.
1091	Chas. F. L. Baehrens.....	"	Wood Tea-Tray.
1143	William Beck.....	"	Assortment of Fancy Rosettes.
1228	B. F. Turner & Co.....	"	Display of Dry Goods (Ex. only).

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Exposition:

GENTLEMEN:—W. H. TAYLOR, one of the Judges appointed in Class No. 23, hereby respectfully submits the following as his report:

No. 608. Consisting of various articles supposed to be in part of the manufacture of the exhibitors, and are good of their kind. Not entitled to more than ordinary notice.

No. 637. Of considerable skill in the manufacture, but of no special utility.

No. 695. Consisting of woolen blankets represented by the exhibitors as made from Western wool, and are a fine lot of their kind.

No. 888. Containing spices supposed to be placed on exhibition by the owners, and difficult to judge of their merits in their present form.

No. 967. Consisting of an assortment of teas of foreign production, which the exhibitors represent are being imported by them in fifty-one days from Shanghai, China, and in forty-four days from Yokohama, Japan.

Nos. 1086, 1087, and 1088. Are good specimens of their kind, a portion of which were made for, and were on exhibition at, the "Textile Exhibition" in Cincinnati some months ago.

No. 1091. Consisting of work belonging more properly to the cabinet furniture department. Not of much utility, more than to show the ingenuity of the maker, whoever he may be.

No. 1143. Consisting of fancy articles of ornamentation. Good of their kind.

No. 1228. Dry goods on exhibition by the owners. Worsted dress goods, etc., fair specimens of their kind; supposed to be on exhibition as an advertisement. Are a fair lot of this description of merchandise.

Respectfully submitted,

W. H. TAYLOR.

AWARDS.

Strobel & Wilken, Pocket Books and Silver Ware Cases	<i>Small Silver Medal.</i>
W. W. Hanly & Co., Display of Tea.....	<i>Diploma.</i>
Hulbert Bros. & Co., Fancy Knit Goods.....	<i>Diploma.</i>
B. F. Turner, Display of Dry Goods.	<i>Diploma.</i>

CLASS 24.

Miscellaneous Articles not Included in any of the Foregoing Classes.

JUDGES:

JOHN W. DALE.

THEOPHILUS WILSON.

JAS. L. HAVEN.

No.	Exhibitor.	Residence.	Articles Exhibited.
301	Hope & Whitney.....	Boston, Mass	Glass Sign.
302	D. Campbell.....	Cincinnati, O	Combined Spinning-Wheel and Reel.
308	C. Colby.	South Pass, Ill.....	Fruit Packages.
332	Morel & Fletcher.....	Covington, Ky.....	Carbo-Xulic Parthermal for Roofing and Floors.
341	L. Marks.....	Cincinnati, O.....	Renovated Carpets and Rugs.
407	F. Dieckman.....	"	Bridge Model.
425	Samuel Males.....	"	Model of Street Car Guard.
429	W. J. DeGrummond.....	So'th Pendleton, city	Car Window Sash Model.
453	Charles W. Harwood.....	Cincinnati, O.....	Brick Moulds.
456	R. S. Craig & Co....	"	Assortment of Brushes.
504	T. C. Fahnestock.....	"	Clip and File.
505	J. W. Tenney & Co.....	"	Hat and Shawl Strap.
506	J. W. Tenney & Co.....	"	Patent Carriage Top Prop.
538	Stephen Scotton.....	Richmond, Ind.....	Wooden Tree Boxes.
549	Z. Getchell & Co.....	Cincinnati, O.....	Model House and Stand.
553	DeBus Tub and Cooper- age Company.....	"	Tubs and Cooperage.
557	Jacob Gardner.....	"	Block of Coal.
579	John P. Epply.....	"	Shrouds, Robes, and Coffin Ornaments.
580	John P. Epply.....	"	Burial Caskets and Coffin Lining.
628	American Burial Case Company	"	[Caskets. Metallic Burial Cases and
649	John Matthews.....	New York City.....	Marble Soda Water Appa- ratus.
676	Joseph & William Gill...	Cincinnati, O.....	Tubular Railroad Bridge.
687	Geo. T. Cooke.....	"	Mastodon Tusk (Ex. only).
688	Geo. T. Cooke.....	"	Pomegranate Tree (Ex. on- ly).
690	G. A. Nelson.....	"	Patent Card Racks.
706	William Bromwell & Co.	"	Assortment of Brushes.
724	Theodore Dreidel.....	"	Extract Essence Coffee.
731	H. P. Hopkins.....	"	Fancy Sign.
733	J. W. Winder.....	"	Bee-Hive and Honey Ex- tractor.

CLASS 24.—MISCELLANEOUS ARTICLES—CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
743	Post & Co.....	Cincinnati, O.....	Locomotive Head-Lights.
744	Post & Co.....	"	Plush Trimming for Cars, and Spun Brass.
754	Ordelmundt & Schuberth	"	Walker's Extension Ladder.
767	John Poehner.....	"	Wine Keg.
770	Coffin, Shays & Co.....	"	Parlor Game.
784	J. B. & T. E. Johnson...	Indianapolis, Ind...	Safety Drying Kiln.
794	J. S. Yungblut.....	Covington, Ky.....	Sealing Wax.
795	Fraker Fence Company.	Cincinnati, O.....	Door-Yard Fence.
796	J. C. Appenzeller.....	"	Pair of Animal Horns.
821	A. Murray.....	"	Advertising Table.
891	Jacob Gominger.....	"	Hunting and Pleasure Boats.
913	Stephens, Heinsheimer & Co.....	"	Samples of Roofing and Pav- ing.
945	Wm. Beck.....	"	Silk Banner.
956	August Sunderbruch....	"	Plants.
958	Peter Schwan.....	"	Stuffed Birds.
963	Charles W. O'Hara.....	"	Hand Corn-Shellers and Shoe-Ties.
973	Charles Albert.....	"	Log Landscape.
1001	F. E. Suire & Co.....	"	Draught Stands, Generator, and Fountains.
1027	Ohio Great Vein Mining Company.....	New Lexington, O...	Iron Ore and Coal.
1038	Kenton Iron Company..	Covington, Ky.....	Iron Ore.
1055	Traber & Aubery.....	Cincinnati, O.....	Fire Brick.
1090	Sellew & Co.....	"	Spelter or Slab Zinc.
1101	G. W. Gladden.....	"	Elastic Roofing.
1102	G. W. Gladden.....	"	Patent Tar.
1119	James Meuttmann.....	"	Sign Painting.
1121	C. Schmidt & Co.....	"	Patent Charcoal Pipes.
1148	S. G. Cobb & Co.....	"	Plants and Natural Orna- ments.
1153	S. Frank.....	"	Figure Sign.
1157	J. D. Little.....	Springfield, O.....	Specimen of Machinery Painting.
1158	J. D. Little.....	"	Specimen of Mechanical Work.
1181	A. Darling.....	Cincinnati, O.....	Rat or Game Trap.
1191	John Kauffmann & Co...	"	Lager Beer, in keg and half- barrel.
1183	F. W. Rutz.....	"	Belgian Canaries, in cages.
1211	G. D. V. Rollo & Co.....	"	Wooden Water and Gas- Pipes.
1235	A. D. Bullock & Co.....	"	Bristles.
1236	Charles S. Cheever.....	"	Paper Boxes.
1238	Crane, Breed & Co.....	"	Coffin Trimmings.
1241	Nourse, White & Co.....	Westboro, Mass...	Trellises for Plants.
1242	Hunnewell Cannel Coal Company.....	Cincinnati, O.....	Sample of Cannel Coal.
1245	Mrs. D. A. Mitchell.....	"	Fossils and Minerals.
1261	Thomas P. Knaggs.....	"	Graining and Marbleizing.

CLASS 24.—MISCELLANEOUS ARTICLES, CONTINUED.

No.	Exhibitor.	Residence.	Articles Exhibited.
1285	Dr. C. S. Muscroft.....	Cincinnati, O.....	Patent Spiral Fastening for Watch-Chains, etc.
1504	David Buffum.....	Salem, Mass.....	Patent Car-Seat.
1512	C. A. McLaughlin.....	Covington, Ky.....	Mastodon Tusks, Teeth, and Bones (Exhibition only).
1516	Alva H. Doan.....	Cincinnati, O.....	Miniature Steamboat.
1531	Paul Frick.....	Jonesboro, Ill.....	Mechanical Puzzle in bottle.
1534	M. Greenwood & Co.....	Cincinnati, O.....	Meat Stuffer.
1537	M. Greenwood & Co.....	".....	Hanging Basket, and Patent Stand for Flowers.
1544	Geo. H. Seymour.....	Indianapolis, Ind ...	Car-Brake.
1552	Dr. Waldo.....	Cincinnati, O.....	Artificial Eyes.
1557	H. Kuhlman.....	".....	Churn.
1559	C. H. Grainger.....	".....	Graining and Marbleizing.
1562	Oscar Warden.....	".....	Calcium Light.
1566	C. S. Talmadge & Co.....	".....	Soda Fountain.
1571	L. M. Fish.....	".....	Rose Crystal Marble (rough and finished).
1576	E. Whitehead, Sr.....	".....	Wood Pavement.
1579	Tomotla Iron Works.....	Cherokee Co., N. C.	Gold Quartz.
1621	Chas. Gooch.....	Cincinnati, O.....	Blacksmiths' Drills.
1623	Taylor & Connell.....	".....	Fire-Brick, and Tile.
1625	Boehle & Bro.....	".....	Barrels and Kegs.
1630	R. J. Ellis.....	Newport, Ky.....	Rustic Parlor Green-House.
1633	J. C. Gaston.....	Cincinnati, O.....	Bee-Hive.
1637	Gus W. Weisman.....	".....	Express Call Sign.
1642	I. C. Schuler & Co.....	Amsterdam, N. Y....	Wrought Galvanized Iron Burial Casket.
1652	Caspar Oswald.....	Cincinnati, O.....	Geranium (Exhibition only).
1661	J. E. Clendenning.....	".....	Bituminous Rock Pavement.
1669	J. H. Hey.....	".....	Street Railroad Register (Exhibition only).
1670	James W. McMackin.....	".....	Welsh's Patent Fire-Place Heater.
1051	Gross, Yingsling & Gross	".....	Patent Self-Adjusting, Car Window Frames and Sash.
1682	Miles Norton & Co.....	".....	Boulevard Pavement.
980	James L. Wayne & Son...	".....	Plated Coffin Trimmings.
391	David McCurdy.....	Ottawa, O.....	Iron Bridge (Model).
1699	John Winter.....	Cincinnati, O.....	Fancy Skating Rink (Model. Exhibition only).
1715	J. H. Laws & Co.....	".....	Geological Specimens and Fertilizer.

REPORT OF JUDGES.

To the General Committee Cincinnati Industrial Committee:

GENTLEMEN:—Your Committee of Examination in Class No. 24, after having carefully examined all of the various

articles submitted to their inspection, respectfully present the following conclusions:

No. 301. HOPE & WHITNEY, one glass sign.

No. 1119. JOHN MEUTTMANN, sign painting (on glass).

No. 1119, by John Meutmann, possesses the *first degree of merit*—well executed and in good taste. No. 301, by Hope & Whitney, *second degree*. Well done.

No. 302. D. CAMPBELL, small spinning-wheel and reel combined (toy in a vial), worthy of *honorable mention* as an example of ingenuity and patience. No competition.

No. 308. C. COLBY, one box fruit packages. *First degree of merit*—a good article; light, strong, neat, portable; very convenient for transportation in sets when empty. No competition.

No. 341. NEW YORK PATENT CARPET RENOVATING COMPANY, L. Marks, superintendent, two pieces carpet and two rugs (half renovated). Deserves *honorable mention*—cleaning well done and colors renewed. No competition.

No. 425. SAMUEL MALES, model street-car guard (not on hand).

No. 429. W. J. DEGRUMMOND, two window-sash models (car).

No. 1051. GROSS, YINGSLING & GROSS, two patent self-adjusting car-window frames and sash.

No. 1051 possesses *first degree of merit*. This adjustment is suitable for all windows having two or more sashes, and is simple, economical and durable; it dispenses with the movable rebates or beads, and allows the sash to be raised, lowered, or removed readily.

No. 429 has a *second degree of merit*, and is a good fastening for car-windows.

No. 453. CHAS. W. HARWOOD, one pair brick moulds; a good article and well made. No new features.

No. 456. R. S. CRAIG & Co., brushes, and sample cards.

No. 706. WM. BROMWELL & Co., brushes.

Both of these exhibitors have made a fine display and in great variety. Their goods are first-class and embrace a full line. We are pleased to learn that these wares are, with one or two exceptions, all of their own manufacture. We award them *first degree of merit* equally.

No. 504. T. C. FAHNESTOCK, clip and file (for papers). A good article, and new. *First degree of merit*. No competition.

No. 505. J. W. TENNEY & Co., hat and shawl strap. A good shawl strap—deserves *honorable mention*.

No. 506. J. W. TENNEY, patent carriage-top prop; possesses *first degree of merit*—a useful invention. No competition.

No. 538. STEPHEN SCOTTON, two wooden tree-boxes—a good box, and cheap. *Second degree of merit*.

No. 557. JACOB GARDNER, block of coal. The largest block of coal on exhibition—deserves *honorable mention*.

No. 1027. OHIO GREAT VEIN MINING COMPANY, assortment of iron and coal. A fine display of both articles in many varieties, including a column of coal twelve feet high—deserves *honorable mention*.

No. 1242. HUNNEWELL CANNEL COAL COMPANY, piece cannel coal—a very large piece pure coal. *Honorable mention*.

No. 1038. KENTON IRON COMPANY, samples iron ore. Largest display and greatest number of varieties—deserves *honorable mention*.

No. 332. MOREL & FLETCHER, one piece carbo-xulic parthermal (for paving, roofing, and floors).

No. 549. Z. GETCHELL & Co., roofing.

No. 1101. G. W. GLADDEN, elastic roofing.

No. 1682. MILES, NORTON & Co., one piece boulevard pavement.

No. 1661. J. E. CLENDENING, samples bituminous rock paving.

No. 913. STEPHENS, HEINSHEIMER & Co., roofing and paving.

Some of these, it will be observed, are entered as paving material, some as paving, roofing, and flooring, and others roofing only. For streets, much used for heavy travel at all seasons, we are not sure that any of these materials will answer the purpose fully.

For streets, walks, and floors, among those exhibited, we give preference in order as follows:

No. 1661. Bituminous rock.

No. 913. Iron slag.

No. 332. Carbo-xulic parthermal.

No. 1682. Boulevard.

The material of the first-named can not be crushed or pulverized so easily as the rest, and, being struck a heavy blow, the bituminous cement will not break more readily than the pebbles and cobble-stones mingled with it. We award it *first degree of merit*.

In matter of roofing we give preference in order as follows:

No. 913. Iron slag.

No. 332. Carbo-xulic parthermal.

No. 549. Z. GETCHELL & Co.

No. 1101. G. W. GLADDEN.

The first-named is composed of iron slag (pulverized) and tar; it will most likely be hardened by the action of the atmosphere, and is fire-proof. We assign it *first degree of merit*. Nos. 913 and 332, having been but recently introduced, have not had the test of time in actual use. No. 549, Z. GETCHELL

& Co., has been used longer, and has been, we believe, satisfactory.

No. 553. DEBUS TUB AND COOPERAGE COMPANY, tubs and cooperage.

No. 1625. BOEHLE & BRO., two barrels and two kegs.

No. 553 possesses *first degree of merit*; it consists of large and small barrels and kegs, and one large tank, all strongly and neatly done. No. 1625 possesses *second degree of merit*; constructed of good material and strongly made, but not so neat and workmanlike as the former.

No. 649. JOHN MATTHEWS, marble soda water apparatus.

No. 1001. F. E. SUIRE, two draft stands and generator and two fountains.

To No. 649 we most cordially assign the *first degree of merit*. Its arrangement is complete and superior for cleanliness, purity, and convenience, and its external structure is of elegant material and workmanship. Articles No. 1001 are elegantly finished and convenient in use, but, in comparison, have *second degree of merit*.

No. 407. F. DIECKMAN, one bridge model.

No. 676. JOS. & WM. GILL, one tubular railroad bridge.

No. 391. DAVID McCURDY, one wrought iron bridge.

No. 407 is a model of a bridge to be built of wood or iron, or both. It has one upright arch, spanning its entire length, and an inverse or counter-arch, of same length and a longer radius; the crown of the latter being on a level with the roadway. A tensile cord (a wire rope) forms the base of these arches, and is made to bear the strain of both. The model is nine feet long, twelve inches wide, and thirteen inches high; the arches are made of plasterers' lath one and a half inches wide. We subjected it to a test of one ton of pig iron piled upon it, with no apparent injury; it sagged five-eighths of an inch. We award *first degree of merit* for a wooden bridge.

No. 391 is a wrought iron model fifty inches long, eleven inches wide, and five inches high—weight, seventeen and three-quarter pounds. The roadway is suspended from two

arches formed of one or more rods each, securely fastened at the extremities in cast iron shoes, which rest on the abutments. A horizontal brace, running the length of the bridge (one on each outside), attached to the extremities, and projecting from the middle, say three-quarters of an inch (in the model), serves to counteract the lateral motion of the structure. We subjected this small model to a test of 1285 pounds weight (all we could put on it), without any appreciable effect except a sagging of three-sixteenths of an inch. We award it *first degree of merit*.

No. 676 is a model of a railroad bridge made of wrought iron, ten feet long, fifteen inches wide, eighteen inches high, and weighs four hundred and eighty-five pounds. The merit claimed is in the "honey-comb" structure of its sides. The exhibitor claimed that the model would carry safely twelve tons and upwards; five thousand six hundred and eighty pounds of pig-iron were put on it, which caused it to sag four inches, and badly damaged the structure. A serious objection to this bridge is the impossibility of restoring its integrity, if much distorted, without an almost entire reconstruction.

No. 579. JOHN P. EPPLY, shrouds and robes and coffin ornaments; and No. 580, by same, eight burial caskets and one case of coffin trimmings.

No. 628. AMERICAN BURIAL CASE COMPANY, four metallic burial cases and caskets.

No. 980. J. L. WAYNE & SON, two cases of plated coffin trimmings.

No. 1238. CRANE, BREED & Co., coffin trimmings.

No. 1642. I. C. SCHULER & Co., one wrought iron galvanized burial casket.

Of these we award to No. 580 the *first degree of merit* for wooden burial caskets. Those on exhibition are well made with elegant finish and decorations. We especially commend the use of hinge and lock, instead of screws, for fastening the

lid. Mr. Epply's plan for rendering his wooden caskets airtight is worthy of attention.

To No. 628 we assign the *first degree of merit* for *metallic* burial cases and caskets. The specimens shown are made wholly of galvanized iron and zinc, supported by corrugated braces. They are very light and durable, and are finished and decorated in elegant style.

To No. 1642 we assign *second degree of merit*. This casket is well made, and is finished and trimmed most tastefully; but being constructed partly of sheet and partly of cast metal, it is much heavier than the foregoing.

To No. 579 we award the *first degree of merit* for shrouds and robes. These embrace many varieties of design, and are gotten up in the best workmanlike manner and of No. 1 material. No competition.

For coffin trimmings we award to No. 1238, Crane, Breed & Co., the *first degree of merit*, they being the manufacturers of nearly all of the articles exhibited by them. They display a large variety of elegant trimmings of first-class workmanship and attractive patterns. The competitive displays are made by dealers in that line of goods, are very creditable, and worthy of very *honorable mention*.

No. 687. GEORGE T. COOKE, one mastodon tusk; and No. 688, one pomegranate tree (for exhibition), deserve *honorable mention*. The tusk is large and well preserved. No competition.

No. 1512. C. A. McLAUGHLIN (for exhibition only), three mastodon tusks, teeth, and bones, deserve *honorable mention* for the numerous collection and the care which has evidently been bestowed on them.

No. 690. G. A. NELSON, patent card racks. A meritorious article, new, and not expensive. No competition.

No. 724. THEODORE DREIDEL, extract of the essence of coffee. To this article we can not ascribe the least degree of merit or honorable mention. If it is rightly named coffee,

we recommend that chemical agency be made to discover its presence, for your Committee can not.

No. 731. H. P. HOPKINS, one fancy sign. The work is well executed, possessing the *first degree of merit*. No competition.

No. 733. J. W. WINDER, bee-hive and honey-extractor. Possess *first degree of merit*. As a hive for bees and an extractor of honey from the comb, these two parts seem excellently well adapted to the purposes.

No. 1633. J. C. GASTON, one bee-hive. *Third degree of merit*.

No. 754. ORDELMUNDT & SCHUBERTH, Walker's extension ladder. Well designed and a useful article. Possesses *first degree of merit*. No competition.

Nos. 743. Post & Co., locomotive head-lights and plush; No. 744, trimmings for cars and spun brass. To Messrs. Post & Co. we unhesitatingly award the *first degree of merit* in a superlative sense. They have here exhibited all of the trimmings, fittings, and furnishings of every grade, shape, and kind, for railroad and street cars, and much of the useful as well as the ornamental metal work of locomotives. We would call especial attention to their locomotive head-lights; spun-brass cylinder heads, and chimney-caps and bases; car-lamps; steel-springs, of all kinds; brass-castings; silver-plated goods, etc., etc.; all exquisitely finished and of most perfect workmanship. Every article in this vast display is, we understand, manufactured by them in this city.

Messrs. Post & Co. are worthy of all commendation for their enterprise and achievement in this line of manufacture. Commencing as pioneers in the business here, they have built up a large trade, and have pressed their wares into the home markets of Eastern manufacturers, and compelled capitalists of other cities to acknowledge the superiority of these goods by purchasing here instead of at home. We should be glad to see the grand gold medal awarded to this firm, and believe that they would be worthy recipients of it.

No. 767. JOHN POEHNER, one wine keg. Possesses *first degree of merit* for ornamental cooperage, and is a neat model. No competition.

No. 770 COFFIN, SHAYS & Co., one parlor game (named *sans-souci*). Worthy of *honorable mention*. A new and interesting pastime. No competition.

No. 784. J. B. & T. E. JOHNSON, safety drying kiln. We award this the *first degree of merit* as an economical and effectual method for drying lumber with dispatch and perfect safety. It is commended to the favorable notice of all having need of such appliances. No competition.

No. 794. J. S. YUNGBLUT, sealing wax. A good article and in large variety. *First degree of merit*. No competition.

No. 795. FRAKER FENCE COMPANY, door-yard fence. A good fence for the purpose—simple, economical—but not very strong. *Second degree of merit*. No competition.

No. 796. J. C. APPENZELLER, one pair animal horns. Very large and well preserved—deserving *honorable mention*.

No. 821. A. MURRAY, advertising table. Compact, convenient, and adapted for the purpose; suitable for reading-rooms of hotels, etc. Possesses *second degree of merit*. No competition.

No. 891. JACOB GOMINGER, one hunting and one pleasure-boat. Good specimens of boat-construction, and neat workmanship in that line; but we think the hunting-boat in particular not exactly adapted to its purpose. *Second degree of merit*.

945. WM. BECK, silk banner. A pretty piece of work neatly done—worthy of *honorable mention*. No competition.

THOMAS KNAPP, plants.

No. 956. AUGUST SUNDERBRUCH, plants.

No. 1148. S. G. COBB & Co., plants and natural ornaments. A creditable display of choice and beautiful plants, entered, we are told, only for decoration.

No. 958. PETER SCHWAN, stuffed birds. We award *first degree of merit* for restoring and preserving the natural appearance of the birds and other objects shown; but we think the grouping and general arrangement not so skillfully done. No competition.

No. 963. CHAS. W. O'HARA, hand corn-sheller, and shoe-ties. Both articles ingenious, well adapted to their purposes, and useful. *Second degree of merit*. No competition.

No. 973. CHAS. ALBERT, one log landscape. An ingenious piece of work, with more labor than compensation. Why it is called a "log landscape" is not apparent to your Committee.

No. 1055. TRABER & AUBERY, fire-brick.

No. 1623. TAYLOR & CONNELL, fire-brick and tile.

To No. 1623 we assign *first degree of merit* for best fire-brick and tile, and greatest variety for all uses.

To No. 1055, *second degree of merit*. Too much impregnated with iron.

No. 1090. SELLEW & Co., spelter, or slab zinc. A good article, deserving *honorable mention*. No competition.

No. 1102. G. W. GLADDEN, patent tar. *Second degree of merit*. No competition.

No. 1121. C. SCHMIDT & Co., one dozen patent charcoal pipes. Very neatly made, light, and not expensive; they are as useful, most likely, as it is possible for tobacco-pipes to be. *Second degree of merit*.

No. 1153. S. FRANK, one figure sign (not found).

No. 1157. J. D. LITTLE, machinery painting; and No. 1158, mechanical work.

In respect to the painting and the mechanical work on the specimen shown (a mower and reaper), we cheerfully attest to their *first degree of merit*. Made of the best material, all parts are well and neatly executed; the joints and fittings

(whether of like metals or of different metals) are perfectly constructed, and as delicately as the most delicate mathematical instrument. The metals are skillfully wrought, and polished to the highest degree; and the wood, well selected, is finished in the best style of workmanship, and most elegantly painted and varnished, and with exquisite taste. In every respect the very best material has been used. No competition.

No. 1181. A. DARLING, rat and game trap. Quite ingenious. *Third degree of merit.* No competition.

No. 1183. F. W. RUTZ, Belgian canaries and cages. Cages quite neat and birds very pretty. Did not hear them sing. *Honorable mention.* No competition.

No. 1211. G. D. V. ROLLO & Co., wooden water and gas-pipe. This pipe is constructed after the Wychoff's patent. It is bound with straps of iron, and is coated with asphaltum and tar on the outside (and, in case of the gas-pipes, inside also). In this way are secured strength, durability, and cheapness. It is more than a fit substitute for iron for conveying water or gas. We heartily commend this article to the attention of city authorities, railway companies, etc., etc. We award it the *first degree of merit.* No competition.

No. 1235. A. D. BULLOCK & Co., bristles. A good display of first-class bristles and curled hair, and a good variety, from their own factory. We cheerfully attest to their *first degree of merit.* No competition.

No. 1236. CHAS. S. CHEEVER, paper boxes. No. 1 article. Large assortment of various sizes. *Second degree of merit.* No competition.

No. 1241. NOURSE, WHITE & Co., trellises for plants. A fine display of tasteful and economical designs. *Second degree of merit.* No competition.

No. 1245. Mrs. D. A. MITCHELL, fossils and minerals. A very choice collection arranged in good taste. It merits *honorable mention.* No competition.

No. 1261. THOS. P. KNAGGS, graining and marbleizing. We ascribe *second degree of merit*.

No. 1559. C. H. GRAINGER, graining and marbleizing. *Third degree of merit*.

No. 1285. Dr. C. S. MUSCROFT, patent spiral fastening for watch chains and other articles. An ingenious and useful article. We assign *second degree of merit*. No competition.

No. 1504. DAVID BUFFUM, one patent car seat. A very worthy invention, combining simplicity, strength, cheapness, durability, and comfort. We recommend it to the favorable notice of railroad men and cabinet manufacturers. We assign it *first degree of merit*. No competition.

No. 1516. ALVA H. DOAN, miniature steamboat. An evidence of patience and handiwork that ought to be utilized.

No. 1531. PAUL FRICK, mechanical puzzle in bottle. Evidence of skill and patience capable of better things.

No. 1534. M. GREENWOOD & Co., meat-stuffer for butchers' use; and No. 1537, hanging flower-baskets and flower-pot stands.

No. 1534 has *second degree of merit*, and is a good article. No competition.

No. 1537, neat and attractive designs, deserving *honorable mention*. No competition.

No. 1544. GEO. H. SEYMOUR, car break. Examined the model and recommended the exhibitor to submit it to railroad men for examination.

No. 1552. Dr. WALDO, artificial human eyes. A creditable display. Some of the articles are good imitations. *Second degree of merit*. No competition.

No. 1557. H. KUHLMAN, one churn. *Third degree of merit*.

No. 1562. OSCAR WARDEN, calcium light. A valuable aid to the attractions of the Exposition. *First degree of merit*. No competition.

No. 1566. C. S. TALLMADGE & Co., soda fountains; intended for family use. *Second degree of merit*.

No. 1571. L. M. FISH, rose crystal marble, rough and polished. Beautiful material and capable of exquisite polish, as shown. Deserves *honorable mention*. No competition.

No. 1576. E. WHITEHEAD, Sr., wood pavement. A new form of paving block—worthy of a trial. Merits *honorable mention*. No competition.

No. 1579. TOMATLO IRON WORKS, A. A. Campbell, gold quartz. After carefully examining the specimens exhibited, your Committee submitted several of them, for analysis and test, to experienced mineralogists and miners. We are compelled to report that the presence of gold has not been detected.

No. 1621. CHAS. GOOCH, three blacksmiths' drills—excellent article. Possess *first degree of merit*.

No. 1630. R. J. ELLIS, three rustic parlor green-houses. *First degree of merit*. No competition.

No. 1637. GUS WEISMAN, expressman's call-sign—convenient and useful. *Third degree of merit*. No competition.

No. 1652. CASPAR OSWALD, one geranium tree (for exhibition only). A very pretty tree—well cared for.

No. 1669. J. H. HEY, street-railroad register (exhibition only). Ingenious, and recommended to attention of street-railroad operators.

No. 1670. JAMES W. McMAKIN, Welch's patent fire-place heater (for exhibition only.) A worthy invention, and must prove a valuable addition to the capacities of a fire-place. Merits *honorable mention*.

Respectfully submitted,

J. W. DALE,

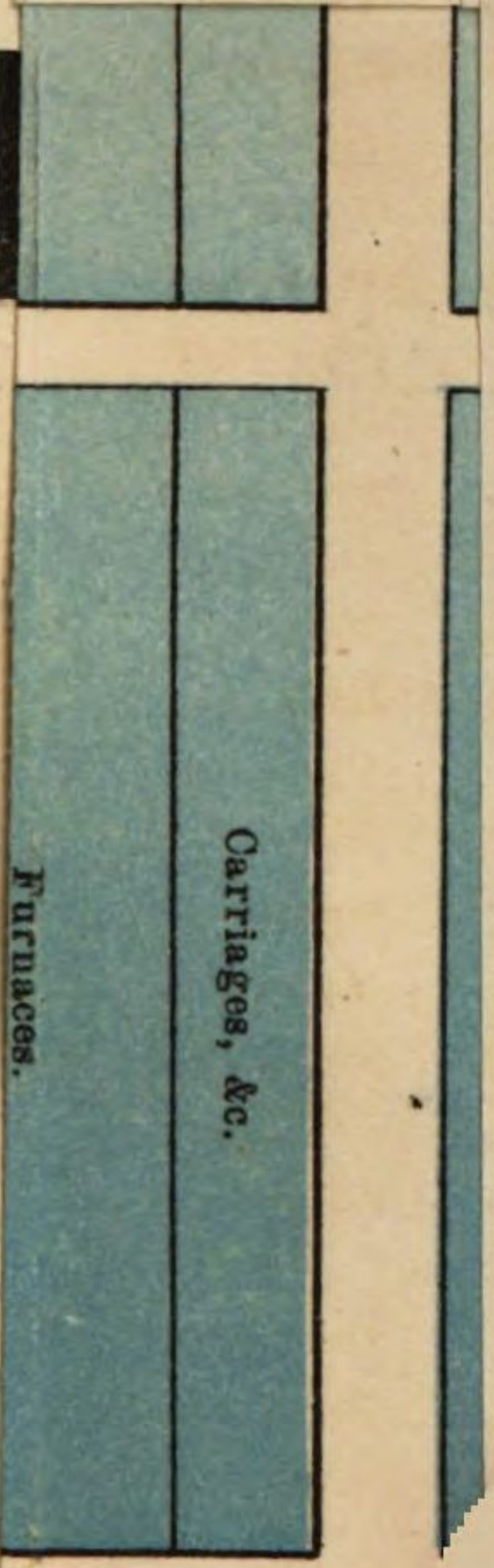
T. WILSON.

JAMES L. HAVEN.

AWARDS.

C. Colby, Fruit Packages.....	Diploma.
Dieckman, Wooden Bridge Model.....	Large Silver Medal.
R. S. Craig & Co., Brushes.....	Diploma.
T. C. Fahnestock, Clip and File.....	Diploma.
J. W. Tenney & Co., Carriage-Top Prop.....	Diploma.
DeBus Tub and Cooperage Company, Tubs and Cooperage...	Small Silver Medal.
Jacob Gardner, Coal.....	Diploma.
John P. Epply, Shrouds and Robes.....	Diploma.
John P. Epply, Wooden Caskets.....	Small Silver Medal.
American Burial-Case Company, Metallic Burial Cases and Caskets.....	Small Silver Medal.
John Matthews, Soda Water Apparatus.....	Large Silver Medal.
Wm. Bromwell & Co., Brushes.....	Diploma.
H. P. Hopkins, Fancy Sign.....	Diploma.
J. W. Winder, Bee-Hive, and Honey Extractor.....	Diploma.
Post & Co., Railroad Supplies.....	Gold Medal.
Ordelmundt & Schubert, Walker's Extension Ladder.....	Diploma.
John Peohner, Wine Keg.....	Diploma.
J. B. & T. E. Johnson, Safety Drying-Kiln.....	Diploma.
Jacob Gominger, Pleasure Boat.....	Diploma.
Stephens, Hensheimer & Co., Iron Slag Roofing.....	Diploma.
Peter Schwan, Stuffed Birds.....	Diploma.
F. E. Suire & Co., Draught Stands, Generator, and Fountains.....	Diploma.
Ohio Great Vein Mining Company, Iron Ore and Coal.....	Diploma.
James Meuttmann, Sign Painting.....	Diploma.
C. Schmidt & Co., Charcoal Pipes.....	Diploma.
G. D. V. Rollo & Co., Wooden Water and Gas-Pipes.....	Diploma.
A. D. Bullock & Co., Bristles.....	Diploma.
Crane, Breed & Co., Coffin Trimmings.....	Small Silver Medal.
Nourse, White & Co., Trellises for Plants.....	Diploma.
David Buffum, Car-Seat.....	Diploma.
Alvah H. Doan, Miniature Steamboat.....	Diploma.
Paul Frick, Mechanical Puzzle in Bottle.....	Diploma.
Oscar Warden, Calcium Light.....	Diploma.
Taylor & Connell, Fire-Brick and Tile.....	Diploma.
Boehle & Bro., Barrels and Kegs.....	Diploma.
R. J. Ellis, Rustic Parlor Green-House.....	Diploma.
I. C. Schuler & Co. Wrought Galvanized Iron Burial-Casket.....	Diploma.
J. E. Clendening, Paving manufactured under Braes & Fulton's Patent.....	Diploma.
Gross, Yingsling & Gross, Self-Adjusting Car-Window and Sash.....	Diploma.
David McCurdy, Iron Bridge.....	Large Silver Medal.

BUILDING 200 X 30 FEET.



Materials.

NORTH WING,

Expos





Report of the general Committee of the Cincinnati Industrial Exposition,
held in Cincinnati, under the auspices of the Ohio Mechanics' Institute,
Board of Trade, and Chamber of Commerce, from September 21st to October 22
d, 1870

Cincinnati 1870

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